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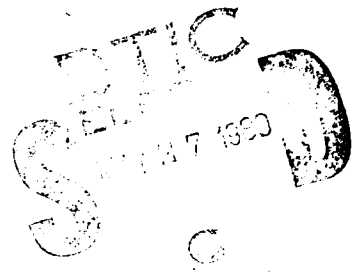
OPERATION AND MANAGEMENT OF STUDENT MEAL SERVICE PROGRAMS IN THE DEPARTMENT OF DEFENSE DEPENDENTS SCHOOLS



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EXECUTIVE SUMMARY

The Office of the Department of Defense Dependents Schools (DoDDS) is responsible for the primary and secondary education of more than 133,000 students in 261 schools outside the United States. Only about 28 percent of these schools currently have adequate student meal programs. In recent years, DoD has been under mounting pressure to provide student meal programs comparable to those available in stateside schools. The passage of Public Law 95-561, which extends the provisions of the National School Lunch Act and the Child Nutrition Act of 1966 to students in overseas dependents schools, has made the establishment and implementation of a systemwide program especially urgent.

This study was undertaken to determine which organizations and administrative practices would be most likely to provide reliable, quality food service at a reasonable cost. Based on a thorough examination of both the existing literature and student meal programs in selected stateside and overseas dependents schools, LMI identified alternatives in four areas: above-school-level management, local management and operations, meal delivery systems and logistical support alternatives and evaluated the cost-effectiveness of each. The results of that analysis may be summarized as follows:

- Above-school-level management responsibility was more consistent with the DoDDS mission and organization than with those of any other organization.
- Independent contractors (including the military exchanges) were preferred to the DoDDS staff and the Services as local manager-operators for the following reasons: food service experience, clear definition of responsibilities, and consistency with government policy of increased reliance on the private sector for goods and services.

- Of the five meal delivery options examined - full cafeteria on-site, full cafeteria off-site, satellite (bulk) preparation facilities, preplate on-site, and box/soup and sandwich meals - none was clearly superior for systemwide application. Desired characteristics for meal service in schools without existing facilities and equipment (almost two-thirds of the DoDDS system) were minimal use of on-site space, low labor content, and low equipment investment and maintenance.

- The Defense Logistics Agency (DLA) - Defense Personnel Support Center (DPSC) - commissary system complex is a better candidate for logistics support of a student meal program than either commercial contractors or the military exchanges because of its superior subsistence logistics management resources.

The following ten recommendations were made:

1. The overall authority and responsibility for the provision of student meal service in the DoD dependent schools should be assumed by OASD(MRA&L).

2. The direct responsibility for management of the DoD student meal service should reside in the Office of the Director, DoDDS.

3. The DoDDS Director should be granted the authority to establish a student meal service management staff, headed by a person with experience in federally subsidized school meal programs. That person or a senior staff member should also have an understanding of DoD subsistence programs.

4. Where USDA nutrition requirements are met or nearly met in existing student meal programs, and the continued service of the present local operator can be maintained, programs should be continued with the minimum necessary modifications.

5. Where new student meal programs are to be instituted, local operation and management should be provided by independent contractors. The individual military exchange services should be considered contractor candidates. These contractors would have full responsibility for all local-level food logistics, preparation, service and administrative activities. The contract/agreement should be awarded on the basis of contractor competition on both qualitative and quantitative performance measures to assure the highest quality program at the least cost.

6. For those schools with successful programs, the existing meal delivery systems should be retained, and the programs changed only to the degree necessary to bring them into line with the USDA and DoD program requirements for nutrition, administration and eligibility for program subsidies.

7. For those schools that have inadequate or no programs, but where a food preparation facility and equipment are already in place,

either inside or outside the school, which could be used for on-site or satellite bulk food preparation operations, a bulk food preparation program should be implemented. The fact that the facility and equipment investment are already in place would tend to make this type of operation more attractive than either the preplate or box meal alternatives. However, high local labor costs and/or the lack of skilled labor could offset the advantage of using the existing configuration of facility and equipment and make Recommendation 8 a better alternative.

8. For those schools with unsuccessful or no meal programs and no usable facilities either on- or off-site, a preplated on-site meal delivery system should be implemented, if a hot meal is desired. If a cold meal is acceptable, then a box or soup and sandwich meal is recommended. The determination of whether the preplate or box lunch/soup and sandwich system is preferable should be predicated on the cost of local labor, power capacity and dependability, climate, available student dining space, availability of frozen storage capacity, base maintenance capability and local preference.

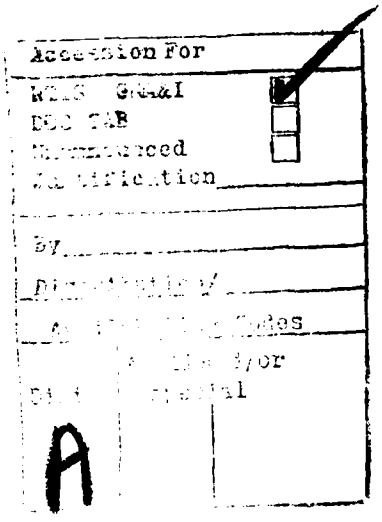
9. DLA/DPSC should be assigned primary, and eventually complete responsibility for the worldwide subsistence support of a DoD student meal program.

10. The commissary should be employed as the primary agent for local subsistence logistics support of meal programs.

The full report presents an analysis of estimated investment and operating costs. The cost of equipment and facilities to upgrade existing school meal preparation sites and to establish others is estimated at $13 million. This amount would come from funds appropriated for that purpose. The estimated annual expense of above-school level management, that is salary and benefits to 24 new DoDDS staff members (9 at headquarters, 15 in the regions), travel and administrative expenses is $1.3 million. Appropriated funds are similarly expected to defray this system management cost. The local annual operating costs, including food, meal preparation, utilities, etc., are estimated at $15 million, which is expected to be balanced by the total system revenues, consisting of USDA cash and commodity subsidies and student meal charges.

Simultaneous establishment and upgrading of meal service facilities at all schools is unlikely. A detailed implementation priority ranking system was developed and presented which can be used to determine the order in which the local school meal programs should be established or improved.

Finally, the report presents an outline of tasks divided among DoD executive level, DoDDS headquarters level and field level to bring about the implementation of the recommended system.



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I. INTRODUCTION

In July 1976, Congress shifted complete responsibility for the operation of DoD dependents schools from the military departments to the Office of the Department of Defense Dependents Schools (DoDDS). DoDDS is now responsible for primary and secondary dependent education in 261 schools in 22 countries outside the United States. Student enrollment in these schools currently exceeds 133,000.

Unlike schools in the United States, the DoD schools were ineligible for the lunch and breakfast programs subsidized by the U.S. Department of Agriculture (USDA), and the initiation of student meal programs was strictly a local school/base concern. The decreasing purchasing power of the dollar in many overseas areas in recent years, however, brought increasing pressures on the military, DoDDS, and the Congress to provide student meal programs similar to those available in U.S. schools. In August 1978, the Logistics Management Institute (LMI) was tasked to study student meal programs and DoD dependent schools with the objective of recommending the most cost-effective and reliable means for delivering quality meals to DoDDS students.

While the study was in progress, Congress passed Public Law 95-561, which extended provisions of the National School Lunch Act and the Child Nutrition Act of 1966 to students attending dependents schools. This legislation requires the Secretary of Defense to "offer meals," "administer lunch programs," and "administer breakfast programs," and increases the urgency of establishing and implementing a student meal program.

The purpose of this study, then, was to evaluate alternatives for operating and administering student meal programs in DoD overseas dependents

schools and to determine those organizations, management practices, and food distribution channels best suited to providing reliable and quality service at a reasonable cost.

SCOPE

LMI examined school feeding programs as administered in selected school systems in the United States, including schools operated on military installations, and in DoD overseas schools. On-site surveys were conducted at one-third of the DoD dependents schools and mail surveys sent to the remainder.

Based on the results of these efforts, LMI identified alternative management and meal delivery schemes for the DoD student feeding program and evaluated them with respect to cost and effectiveness. Issues considered included channels of food distribution, cash and commodity subsidies, reliability of service, capacity and condition of cafeteria facilities, kitchen equipment requirements, administration of free and reduced price meals, personnel requirements, budgeting and accounting systems, nutrition, sanitation control, and DoDDS/Military Department/USDA interfaces.

Ten recommendations were made as to the best means of providing reliable, quality service at a reasonable cost. An implementation task outline was also prepared.

II. CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

Above-School-Level Management

- The present jurisdiction of the OASD(MRA&L) embraces all the components needed to manage an overseas dependents school meal service.

- OASD(MRA&L) is the logical executive-level organization under whose jurisdiction all program responsibilities should reside.

- The direct responsibility for above-school-level management of a DoD student meal program is more consistent with DoDDS responsibilities than those of any other agency.

- The range and complexity of a DoDDS student meal program will require a staff experienced in both federally subsidized school meal programs and DoD subsistence programs.

Local-Level Operations and Management

- Ongoing successful student meal programs are the exception rather than the rule.

- The DoDDS resources for establishing a DoD-wide student meal program can best be allocated to schools with inadequate or no student meal programs.

- The use of independent contractors to operate and manage local-level student meal programs is superior to the use of either DoDDS or the Services.

Meal Delivery Systems

- No one system is equally appropriate for all schools.

- Selection of a system depends on local conditions such as the availability of food preparation and dining facilities, frozen storage capacity, electrical power supply, labor costs, maintenance capability, and community preference.

- In general, programs for schools without existing facilities and equipment should require minimal on-site space, low labor content, and low equipment investment and maintenance.

Logistical Support

- The subsistence apparatus of the DLA/DPSC provides the comprehensive structure needed for a worldwide student meal program.

- The use of the commissary to support the student meal program will provide the simplest and most efficient channel for local subsistence support.

RECOMMENDATIONS

1. The overall authority and responsibility for the provision of student meal service in the DoD dependent schools should be assumed by OASD(MRA&L).

2. The direct responsibility for management of the DoD student meal service should reside in the Office of the Director, DoDDS.

3. The DoDDS Director should be granted the authority to establish a student meal service management staff, headed by a person with experience in federally subsidized school meal programs. That person or a senior staff member should also have an understanding of DoD subsistence programs.

Alternative

We believe that the selection of DoDDS for the above-school-level management role is both logical and proper. However, Congressional appropriations, the degree and speed of reorganization within DoDDS, and time required to authorize and establish a meal service management staff may influence the decision. If these factors, which are beyond the scope of this study, preclude the selection of DoDDS, our second choice is the Military Exchange systems.

Care should be exercised in implementing this alternative to assure, as much as possible, a common policy and direction across all schools regardless of the military services served. Firm policy guidance should emanate from an organizational level with authority over all exchange organizations. Audit functions should be established such that independent and objective examination of operations is possible without potential conflicts of interest.

4. Where USDA nutrition requirements are met or nearly met in existing student meal programs, and the continued service of the present local operator can be maintained, programs should be continued with the minimum necessary modifications.

5. Where new student meal programs are to be instituted, local operation and management should be provided by independent contractors. The individual military exchange services should be considered contractor candidates. These contractors would have full responsibility for all local-level food logistics, preparation, service and administrative activities. The contract/agreement should be awarded on the basis of contractor competition on both qualitative and quantitative performance measures to assure the highest quality program at the least cost.

6. For those schools with successful programs, the existing meal delivery systems should be retained, and the programs changed only to the degree necessary to bring them into line with the USDA and DoD program requirements for nutrition, administration and eligibility for program subsidies.

7. For those schools that have inadequate or no programs, but where a food preparation facility and equipment are already in place, either inside or outside the school, which could be used for on-site or satellite bulk food preparation operations, a bulk food preparation program should be implemented. The fact that the facility and equipment investment are already in place would tend to make this type of operation more attractive than either the preplate or box meal alternatives. However, high local labor costs and/or the lack of skilled labor could offset the advantage of using the existing configuration of facility and equipment and make Recommendation 8 a better alternative.

8. For those schools with unsuccessful or no meal programs and no usable facilities either on- or off-site, a preplated on-site meal delivery system should be implemented, if a hot meal is desired. If a cold meal is acceptable, then a box or soup and sandwich meal is recommended. The determination of whether the preplate or box lunch/soup and sandwich system is preferable should be predicated on the cost of local labor, power capacity and dependability, climate, available student dining space, availability of frozen storage capacity, base maintenance capability and local preference.

9. DLA/DPSC should be assigned primary, and eventually complete responsibility for the worldwide subsistence support of a DoD student meal program.

10. The commissary should be employed as the primary agent for local subsistence logistics support of meal programs.

Alternatives

We recognize that certain constraints on existing logistics facilities may prevent immediate implementation of Recommendations 9 and 10 on a systemwide basis. For such cases we suggest two alternatives: (1) continue any existing logistical support through the exchange, and (2) consider contractor-provided logistical support for nonstandard procurement (particularly a frozen preplate manufactured in CONUS).

A switch from exchange to commissary support might complicate the inception of a student meal program, particularly if the exchange continued to operate as the local manager. Maintenance of exchange support will not affect the integrity of the logistical system in the short term.

Preplates are relatively inflexible from the logistical point of view. They must be transported and stored in a frozen state. Because they are made for a particular market, they cannot be sold off if inventories rise unacceptably or be easily substituted for if demand exceeds supply. Hence, preplates may be difficult to handle through the existing logistical support system, and contractor-provided support, at certain stages or throughout the distribution process, may be advisable.

III. ANALYSIS

This chapter describes in detail the questions the study set out to answer and the alternatives considered. There are four major sections, each addressing a particular problem: above-school level organization and management, local organization and management, meal delivery systems, and logistical support. Key findings are summarized at the end of the Chapter.

ABOVE-SCHOOL-LEVEL ORGANIZATION AND MANAGEMENT

The following above-school-level management alternatives were considered:

- Complete autonomy for each school (basically the status quo)
- Management by the individual Services, on either a school-by-school or geographic basis
- Management by a single Service
- Management by the military exchange organizations
- Management by DLA
- Management by the DoDDS system

Each of these alternatives is analyzed below.

Complete Decentralization

The existing DoDDS student meal program is essentially decentralized and subject to local, autonomous control by a coalition of school officials, parents, base commanders and food service agencies. Selection of this alternative would be essentially to do nothing.

The decentralized system has several disadvantages. Such diffuse control could hardly be thought of as meeting the expectations of P.L. 95-561. School officials would still be unable to refer to a DoD-wide standard of operation. Economies of scale in food logistics, preparation, and service

would not necessarily be precluded, but the functions of oversight, audit, and standards maintenance (or contract administration) would be thwarted. Full participation in the USDA programs would be difficult, as there would be no easy way to submit the necessary claim documentation to USDA. (Based on interviews with USDA school program officials, it is not expected that USDA personnel will be available for overseas site coordination, audit, etc.) Perhaps the most significant disadvantage of the completely decentralized system is that many schools that need a meal program and are presently without food service facilities would not be able to provide one.

Individual Services

Each military service could be assigned the responsibility of providing student meals for a segment of the DoDDS system. Apportionment could be made by either of two schemes:

- Each Service would take responsibility for student meal service at schools located on, or associated with, its bases.
- Each Service would take responsibility for student meal service at schools within a geographic area, irrespective of the Service identifications of the associated bases.

Certain factors favor the individual Service approach. The recognized chain of command and fiscal claimant structure would enable budgeting, policy, audit, and oversight requirements to be implemented in a manner consistent with P.L. 95-561. Communications and logistics networks already exist at the bases; new ones would not have to be established. Each base is capable of procuring food and administering contracts for its preparation and service.

If the Services were to assume responsibility for student meal programs by geographic area, some way of dividing the globe would have to be established. The newly configured DoDDS regions could be used for this purpose. Table III-1 shows the distribution of schools according to DoDDS regions, countries, and Services; Army schools predominate in two regions, and

TABLE III-1. DISTRIBUTION OF SCHOOLS BY COUNTRIES, DODDS REGIONS, AND MILITARY SERVICES

DoDDS Region	Country	Number of Schools on Bases of: Army	Navy	Air Force	Total	Percent
Atlantic	10	7	11	28	46	18
	Bahamas	0	1	0	1	<1
	Belgium	4	0	1	5	2
	Bermuda	0	2	0	2	1
	BWI (Antiqua)	0	1	0	1	<1
	Canada (Argentia)	0	2	0	2	1
	Cuba	0	2	0	2	1
	Iceland	0	2	0	2	1
	Netherlands	2	0	3	5	2
	Norway	0	0	1	1	<1
	United Kingdom	1	1	23	25	10
Mediterranean	6	5	11	25	41	16
	Azores	0	0	2	2	1
	Bahrain	0	2	0	2	1
	Greece	0	0	3	3	1
	Italy	5	7	7	19	7
	Spain	0	2	7	9	4
	Turkey	0	0	8	8	3
Germany (North & South)	1	109	0	24	133	51
	Germany	109	0	24	133	51
Pacific	4	8	14	18	40	15
	Japan	3	7	5	15	6
	Korea	4	1	0	5	2
	Okinawa	1	2	5	8	3
	Philippines	0	4	6	10	4

Note: The number of schools in the system and the number of host countries vary from document to document according to publication dates. The numbers shown are accurate as of the writing of this report.

Air Force schools in three. The DoDDS regions do not, however, match any established global areas of military jurisdiction.

Another method would be to apportion responsibility to the Service which predominates in a country. Thus, the Army would be responsible for schools in three countries, the Navy for schools in nine countries, and the Air Force for schools in nine countries.

Until the establishment of the DoDDS system, the Services were responsible for dependents schools. The Senate and House Appropriations Committee specifically required school budgeting to be consolidated in the DoD budget for fiscal 1975. Subsequently, the Committees determined that this action did not achieve their objectives for improving management control. A conference committee report on the Defense Appropriations Bill for fiscal 1976 directed that full responsibility for management of the program be vested in the Office of Dependents Schools. Although food service was not explicitly addressed, the trend toward centralized management was unmistakable.

Dividing management responsibility for student meal programs among the three Services would facilitate coordination at the local level but could complicate oversight functions. The number of liaison points, policy documents, budgeting efforts, and implementation schemes would multiply, and the result could be inequitable programs. Furthermore, although most of the commanders interviewed supported the idea of a systemwide student meal service, none believed that the responsibility for managing it was consistent with the military mission. Thus, competition for resources in Service and individual base programs would act to the detriment of any Service-funded, but school-related requirement.

Single Service

The assignment of a single Service as executive agent to exercise management responsibility for all student meal programs combines the advantages and disadvantages of both the "all services" and "DLA" options.

The making of such assignments is a recognized practice. Selecting one Service as executive agent for student meal programs would certainly satisfy the intent of P.L. 95-961 and would offer such benefits as economy of scale, a single headquarters, and a single budget center.

On the other hand, many of the disadvantages of the all-Services option would be present here also, specifically, inconsistency with the military mission, opposition by the Services and competition for funds. This choice would also seem to go against the current trend away from Service management of overseas dependents schools and toward greater centralization.

Generally, the assignment of a single Service to management of a multi-Service function is an acknowledgment of that Service's primary interest in, or special ability to perform, the assigned function. In the case of student meal programs however, no one Service has either an obvious interest in, or a preeminent capability for, execution of the responsibility.

Military Exchanges

The military exchanges, particularly AAFES, have provided the only significant form of centralized direction and control for DoD student meal programs to date. A number of arguments may be made for expanding their management responsibility to encompass all student meal programs in the DoDDS system. The military exchanges have extensive food service management experience and established networks extending to all school/base locations. Thus they would be capable of developing and administering comprehensive food service policies. In addition, if the exchanges were both local operators

and system-level managers, significant flexibility in the utilization and distribution of USDA commodities might be possible.

But there are also arguments against using the military exchanges for the above-school-level management function. Because there are three separate exchanges each with distinctive support organizations and budget centers, no single management function for student meal programs would be possible. Furthermore, conflicts of interest could arise if the exchanges were acting as both system-level managers and profit-seeking local operators, or if they were competing as independent contractors on the local level, while also serving as system-level managers.

DLA

Of all the designated DoD agencies, only DLA, with its subsistence item Inventory Control Point, the Defense Personnel Support Center (DPSC), emerges as a possible candidate to assume management responsibility for the DoD student meal service. It is the only agency with existing subsistence item acquisition capability, experience in responding to needs of global food consumption (in the form of troop subsistence support and commissary store supply) and the apparent capability to initiate and administer contracts over a broad range of subsistence-related functions. DPSC has an established relationship with the USDA. Many of the arguments favorable to a single service as executive agent apply to DLA, including the advantages of a single focal point and a single budget activity.

Still, while DLA (through DPSC) is probably the world's most active wholesale grocer shopper, it has no food service management infrastructure of its own which would enable it to execute all the oversight and administrative functions required. The agency would have to establish a network to include all the participating schools. Furthermore, responsibility for student meal

program management is inconsistent with the present DLA mission, and the agency has no identifiable motivation to perform the function.

DoDDS System

The DoDDS system is a counterpart of the public elementary and secondary education systems in the various states. Although state education systems vary widely, they do have some common characteristics. The state boards generally provide a minimum standard of student achievement and teacher qualification, and are the interface between the states and the Federal Government. A significant portion of authority and responsibility is vested in local rather than state bodies. Authority for management of state and local systems is achieved by a combination of political election, executive appointment, and straightforward employment. Funds for school programs, including student meal programs, are generated from a multiplicity of sources, federal, state and local.

The DoDDS system is not characterized by such participation at the local level. Educational policy, teacher standards, and funding are developed solely by authority of the centralized system. All school teachers and administrators, as well as regional authorities and DoDDS officials are employees of the central system.

The central school lunch agency in every state is a division of the state board or department of education. Individual school districts generally have rather wide latitude in the operation of school meal programs, but the programs must meet USDA and state requirements to qualify for federal and state subsidies. The consistent assignment of the management of school meal programs to the state education boards is an argument for a similar assignment in the DoDDS system.

Other arguments in favor of DoDDS as management agent for the student meal program resemble those already made for the other single organization candidates. In fact, many of the advantages of the other options apply doubly to DoDDS, for instance, the advantage of a single contact point or budget center. Budgeting for school structures (including those with cafeterias) construction, maintenance and repair is already a DoDDS function. If another single manager were chosen, there would have to be coordination with DoDDS headquarters, regional or local personnel to develop a separate budget for meal programs to insure that there were no duplications or omissions. With the assignment of meal service management to DoDDS all these school-related functions would be handled by a single agency.

DoDDS has an ongoing system for reimbursing the supporting bases for services. This system could be retained and expanded to include those reimbursible management functions which base commanders would provide, such as contract administration.

The DoDDS system also has an existing operational network to every one of its elements, irrespective of host Service, host country and occasional remoteness from supporting base. A non-DoDDS management system would have to duplicate some links in that existing network.

Existing directives, recent trends, and the new legislation do not preclude the assignment of responsibility for overall management of student meal service to DoDDS. Department of Defense Directive 1342.6[1] assigns to the Director, DoDDS, the responsibility to "organize, manage, fund, direct and supervise the complete operation of the DoD dependents schools...." The Director is also authorized to "enter into agreements with the Military

[1]"Department of Defense Dependents Schools," Oct. 17, 1978.

Departments or other U.S. Government entities as required...," and to "establish subordinate offices necessary to fulfill the assigned mission."

There are certain disadvantages to the assignment of student meal service management responsibilities to DoDDS. No food acquisition, distribution, preparation or system oversight infrastructure now exists in DoDDS, and an oversight staff would have to be authorized and procedures devised for the use of military department, Defense Logistics Agency and contracted services. Also, despite the fact that about 80 percent of the principals interviewed felt that student meals were a proper concern of the school, some DoDDS administrators believe that provision of student meal services is inconsistent with, or at least ancillary to, the education mission of DoDDS.

Costs

Staff to oversee the management of a student meal program will be required in approximately the amounts shown in the Implementation chapter, irrespective of the responsible single agency. Costs were not developed for the candidates in which staffing duplication would be required, because the extent of redundancy in such cases was not definable within the study constraints. If responsibility for program oversight is divided among all the Services, duplication of staffing at least at the headquarters levels would be anticipated.

Annual costs for above-school-level management of the program are estimated at $1.3 million. Depending on the amount of reimbursable support required from the Services or other agencies, primarily in contract administration technical assistance, the annual management cost could increase by a moderate degree.

Summary

Table III-2 displays arguments for and against the candidate systems described above.

LOCAL-LEVEL MANAGEMENT AND OPERATIONS

The three candidates for food service management at the local level were:

- the military services
- DoDDS staff
- independent contractors

The arguments for and against each candidate are explored in the following paragraphs and are summarized in Table III-3 at the end of the section.

Individual Services

Historically, the military services have had an active role in providing student meals and now operate lunch programs at a number of dependents schools. They have existing food service management functions and interfaces at or near all dependents schools locations, and, in some cases, actual facilities capable of feeding the students.

However, a program operated by the services would in fact be four programs rather than one.[2] This would entail four separate interfaces with the USDA, DoDDS, and other agencies as well as four sets of policies and directives, resulting in significant duplication and unnecessary diversity across the school meal programs.

The budgeting for school meal programs would be buried in the individual Service budgets and would probably have to compete with other priorities for funds. Under such circumstances, the meal programs would be in constant jeopardy of reduction or termination because of budget cuts.

[2]Three if the Navy and Marine programs were considered under common jurisdiction.

TABLE III-2. ABOVE-SCHOOL-LEVEL MANAGEMENT CANDIDATES

Military Exchanges	Decentralization; Local Control	All Services	Single Service as Executive Agent	Defense Logistics Agency	DoDDS
PRO	PRO	PRO	PRO	PRO	PRO
Extensive food service management experience Infrastructure to all bases Established relationships with Military Services, DoDDS Flexibility if exchanges had system and local responsibility Satisfies PL95-561	Presently existing situation ("do nothing" solution) Allows maximum local flexibility	Meets spirit of PL95-561 Existing networks to all bases Food service capability	Single contact point Single budget center Economy of scale Meets spirit of PL95-561 Food service capability Precedent established	Single contact point Single budget center Economy of scale Existing capability to procure, distribute subsistence items (DPSC) Existing DPSC network (except Navy) Existing liaison with USDA	Single contact point Single budget center Economy of scale Meets spirit of PL95-561 Consistent with state/country/district/local network Existing mechanism for coordination among services, bases, USDA Consistent with Director's responsibility for supervision of "complete operation" of DoDDS (DoDDir 1342.6) Nonfood operation costs not excluded (DoD Inst. 1342.5) Consistent with congressionally directed trend of DoDDS management of school-related functions Consistent with implied responsibility for students during school day
CON	CON	CON	CON	CON	CON
Three separate structures No easy locus for common management Three budget centers Conflict with profit mission	Does not meet PL95-561 No economy of scale of management Lack of cohesive policy Multiplicity of contact points Inconsistent USDA subsidy availability Satisfies only those schools which have access to capable and qualifying food service facilities Facilitates control by provider rather than receiver of service	Inconsistent with military mission All services oppose Decreases economy of scale Multiple contact points Multiple budget centers Conflict for Service funds Counter to congressionally directed trend of management of school-related functions Lack of cohesive policy	Inconsistent with military mission All services oppose Conflict for Service funds Counter to congressionally directed trend of management school related functions	Inconsistent with present mission No food service infrastructure Requires network duplicating present DoDDS network Requires extension outside of CONUS No motivation	No food service infrastructure Inconsistent with education mission Food costs excluded (DoD Inst 1342.5)

The school meal program is seen as an integral part of school operations and activity and, as such, is more compatible with the DoDDS mission than the military mission. Existing military service feeding operations are intended to support military mission requirements and must maintain the flexibility to handle surge conditions and military deployments. These demands would inevitably effect the Services' operation of a student meal program.

DoDDS Staff

DoDDS, being a reasonably new entity, has focused its attention on improving system organization and the quality of education within DoD schools. It has no existing infrastructure capable of providing student meals and no experience in food service organization. In addition, many of its administrators feel that DoDDS' mission is education and that operation of a student meal program would draw resources and attention away from that mission. These are all arguments against DoDDS having responsibility for local management of student meal programs.

On the other hand, DoDDS provides a single, logical focal point for planning, administering, and funding worldwide dependents school meal programs, thus assuring a continuity across all schools and at all interagency interfaces (e.g., USDA, Services, etc.). Further, in the U.S., student meal programs are generally viewed as a school function and as the responsibility of school management. The assignment of responsibility to DoDDS would assure that the principals at each school would retain control over school facilities and activities taking place there.

Independent Contractors

There are a number of organizations capable of managing student meal service at DoDDS schools on a contract basis. These include: (1) international food service management companies (e.g., Boeing Services, etc.),

(2) food system marketing companies (e.g., ITT Continental-Morton/EURPAC, etc.), (3) nonappropriated fund service operations (e.g., Army-Air Force Exchange Service, Navy Resale Office, etc.), and local national food service management contractors (e.g., IKADA, Star, etc.).

The arguments for using an independent contractor to provide the local management of student meal service operations are numerous. Most of these organizations are experienced food service operators. Many of them have established relationships with the military and logistics communities, and, in some cases, existing operations at bases that could be used to support a student meal program. Responsibility for, and control of, the student meal program would be defined by a contractual agreement without the mission conflicts inherent in both DoDDS and Service management and operation. Finally, use of contractors would minimize growth within DoD and/or the military services. This would be consistent with the effort to limit government growth and to lessen the manpower/resource squeeze being experienced within DoD.

Some of the arguments that have been raised against having an independent contractor provide the local management of student meal services include dilution of direct control and authority for the program, which, according to P.L. 95-561, ultimately resides in DoD, and higher delivered cost of the meal to the student. Certain contractors have a poor reputation within the Service community (e.g., exchange), and the conflict between contractor profit objectives and the low profit potential of the program may result in less than satisfactory food/service quality.

Summary

Table III-3 displays the arguments stated above and assigns a figure of merit value from 1 to 10 based on our judgment of the strength of the argument and its program impact.

TABLE III-3

LOCAL MANAGEMENT AND OPERATION CANDIDATES

PRO/CON ARGUMENTS

THE SERVICES		DODDS STAFF		INDEPENDENT CONTRACTOR	
PRO		**PRO**		**PRO**	
1) HISTORICAL PRECEDENT	+2	1) TRADITIONALLY SCHOOL FUNCTION	+2	1) MANAGEMENT EXPERIENCE	+7
2) EXISTING MANAGEMENT EXPERIENCE	+7	2) SINGLE POLICY AND DIRECTION	+6	2) EXISTING INFRASTRUCTURE	+7
3) EXISTING INTERFACES	+7	3) SINGLE BUDGET CENTER	+5	3) ESTABLISHED INTERFACES	+7
4) EXISTING FACILITIES AND EQUIPMENT	+4	4) PRINCIPALS RETAIN LOCAL CONTROL OF SCHOOL ACTIVITIES	+3	4) LABOR FLEXIBILITY	+4
				5) EXISTING FACILITIES AND EQUIPMENT	+3
				6) DEFINABLE RESPONSIBILITY WITHOUT MISSION CONFLICT	+2
				7) CONSISTENT WITH GOVERNMENT DIRECTION	+2
				8) LIMITS GROWTH OF DOD	+2
	+20		+16		+34
CON		**CON**		**CON**	
1) REQUIRES FOUR POLICY/DIRECTION CENTERS	-6	1) NO EXPERIENCE	-7	1) DILUTES DIRECT CONTROL	-5
2) CREATES CONFLICT FOR SERVICE FUNDS	-5	2) NO FOOD SERVICE INFRASTRUCTURE	-7	2) INCREASES DELIVERED COST	-3
3) NOT SERVICE MISSION COMPATIBLE	-3	3) CONFLICT WITH "EDUCATION" MISSION	-3	3) POSSIBLE ADVERSE COMMUNITY REACTION	-1
4) CREATES APPROPRIATED FUND/NON-APPROPRIATED FUND CONFLICT	-3			4) INCREASE QUALITY CONTROL PROBLEMS	-3
5) ADVERSE EFFECT FROM MILITARY MISSION RESOURCE DEMANDS	-3				
	-20		-17		-12
TOTAL	0		-1		+22

RATING SCALE

PRO +1 to +10 WITH INCREASING PERSUASIVENESS OF ARGUMENT FOR CANDIDATE

CON -1 to -10 WITH INCREASING PERSUASIVENESS OF ARGUMENT AGAINST CANDIDATE

MEAL DELIVERY SYSTEMS

Our analysis identified five alternatives for providing students in DoD dependents schools with a Type A meal:

- Full cafeteria on-site
- Full cafeteria off-site
- Satellite (bulk) preparation facilities
- Preplate on-site
- Box/soup and sandwich (satellite or on-site)

Full Cafeteria On-Site

The term "full cafeteria on-site" refers to a food service operation in which meals are prepared from basic foods in a kitchen located within the school. A full cafeteria operation would at a minimum consist of a fully equipped kitchen, dry, chill, and frozen storage facilities, sanitary facilities, a serving line, and dining space for at least one-third of the student population.

Advantages

- Food can be prepared to appeal to the students' tastes. This may be especially important in schools with ethnic populations. Local preparation also permits more flexibility in portion control and provision of second helpings when desired.

- Food quality is locally controlled and, given a concerned and professional staff, can generally be superior to that provided by other system alternatives.

- The school can take direct advantage of the USDA commodities available to the program.

- Student participation is generally higher in on-site cafeteria operations where "excellence" is achieved than in any other type of operation.

Disadvantages

- The required investments in facilities, equipment, and labor are significantly higher than for any other alternative except "full cafeteria off-site."

- Compliance with health and sanitation requirements is more difficult than for any other alternative except "full cafeteria off-site," due to greater system complexity and larger plant and staff requirements.

- Within the school, a greater percentage of space must be used for food service than in any other system.

- Variations in local management, capability, concern, food preparation skills, and physical plant will result in wide variations in food quality and appeal from school to school.

- The larger size and complexity of the full cafeteria operation results in a more complicated local administrative burden and a greater opportunity for error or manipulation in financial accounting.

- For a full cafeteria operation to even be economically feasible, a minimum participation of about 150 students is required.

Full Cafeteria Off-Site

The term "full cafeteria off-site" refers to a food service operation similar to the full cafeteria on-site, except that the facility is not part of the school complex.

Advantages

- The same advantages apply as for the full cafeteria on-site.

- Full cafeteria food service can be delivered where: (a) such service is not possible within the school, or (b) such service in the school would be uneconomical and/or redundant with acceptable existing food service operations off-site.

- Space within the school complex is not diverted from educational or recreational purposes.

Disadvantages

- The same disadvantages apply as for the full cafeteria on-site, except for the diversion of space.

- The students must walk or be transported to the off-site facility.

Satellite (Bulk) Preparation Facilities

The term "satellite" refers to a food service operation in which an off-site kitchen prepares the food/meals which are then transported to the school. The meals arrive at the school ready to serve, or may require minimal preparation and/or heating. Either bulk food or preplated meals may be successfully satellited.

Advantages

- Schools with inadequate food preparation facilities can provide a Type A meal to the students.
- Schools can take advantage of existing food preparation facilities without substantial on-site investment in kitchen facilities and equipment.
- Schools can take advantage of any economies of scale possible within the off-site food preparation operation.
- Students need not be transported from the school.

Disadvantages

- A delivery system must be devised to bring the prepared food to the school, which could be difficult and/or costly to implement.
- Health and sanitation concerns are extended to food transport as well as preparation and serving.

Preplate On-Site

The term "preplate on-site" refers to a food service operation in which complete, prepackaged Type A meals which have been previously prepared and frozen, are reconstituted in convection ovens.

Advantages

- Preplates require the lowest investment in facilities and equipment of any of the hot meal delivery alternatives.
- Preplates require the lowest investment in local labor, time, and skill of any of the other alternatives.
- Problems associated with meeting health and sanitation requirements are reduced as no actual food handling is required during on-site preparation and delivery.
- Because all components of the preplated meal package are disposable, clean-up is much easier than with any of the alternative hot meal systems.
- Because the preplated meals are self-contained and sealed, there is less chance of spillage. This consideration is especially important if children must eat in classrooms.
- The problem of portion control is removed from the local level, as are the problems of handling and storing leftovers.

- Full advantage can be taken of USDA commodities, without actual involvement in shipment, handling, or storage of the commodities at the local level. The preplate vendor can receive the USDA commodities in return for full value credit against the purchase price of the meals.

- Consistent quality and quantity of food across all schools using the system is assured. Additionally, with proper selection and monitoring of quality vendors, average participation for a preplate program need not be significantly less than that for full cafeteria programs.

Disadvantages

- More frozen storage space is required than with the other alternatives.

- Entree selections are limited to those prepared by the vendor.

- Food quality and appetite appeal are considered lower than meals prepared in the best on-site full cafeterias.

- Provision for seconds or large helpings is more difficult than with the other alternatives.

Box/Soup and Sandwich (Satellite or On-Site)

The term "box" refers to a cold meal which still meets Type A minimum requirements and is similar to what might be brought from home. A soup and sandwich meal is a variation of the box meal, with the addition of hot soup.

Advantages

- Control of meal content remains with the school or preparing agency to assure that each child receives a "Type A" meal.

- Box meals require the least amount of kitchen space of any alternative other than preplates.

- Preparation requires the least investment in facilities and equipment of any alternative.

- Box meals are easy to serve and clean up after and present the fewest sanitation problems if children must eat in classrooms.

Disadvantages

- The number and variety of protein foods suitable for cold meals and acceptable to children are limited.

- Over an extended period, children may get bored with cold meals.
- Use of box meals limits the opportunity for the child to experience new foods.
- The school cannot easily incorporate the use of USDA commodities into a box meal program.
- Because of the similarity between box meals and brown bag lunches from home, children and mothers may prefer to continue home preparation, resulting in low program participation.

Costs

Our comparative analysis of costs for the five meal delivery alternatives took into consideration each of the following elements:

- Equipment acquisition
- Facility (space) acquisition
- Labor
- Food/commodities
- Miscellaneous
  - Supplies/administrative
  - Overhead/utilities
  - Maintenance
  - Transportation
  - Support services

Equipment Costs. Equipment acquisition cost can be analyzed from two perspectives: the lump-sum total expenditure or the amortized cost over the equipment's useful life. Both perspectives are presented here: the first to show the start-up costs of the alternative meal delivery systems, and the second to permit the equipment costs to be factored into the per-meal cost of each alternative.

Table III-4 displays typical food service equipment requirements and costs. Table III-5 displays equipment costs for each alternative system for a student population of 400, as well as the amortized per-meal cost over a 15-year equipment lifetime, assuming a 7 percent cost of capital.

Configurations for operations with significantly larger or smaller student populations would not vary substantially in the types of equipment shown but rather in its size and/or quantity. One might expect the

TABLE III-4. EQUIPMENT LIST

1.	Convection oven	$1,800.00
2.	2-compartment steamer & 40-gallon kettle	7,200.00
3.	Range	1,500.00
4.	30-quart mixer with 20-quart bowl and attachments	2,000.00
5.	Slicer with portable stand	1,400.00
6.	Reach-in refrigerator	3,000.00
7.	Walk-in refrigerator-freezer combination	8,000.00
8.	3-compartment pot sink	1,200.00
9.	Cook's table	900.00
10.	Baker's table	700.00
11.	Cook's table with sink	1,200.00
12.	Exhaust hood with fire protection equipment and grease extractor system	6,300.00
13.	Storage shelving	1,300.00
14.	Service counter to include steam table, cold food table, utility station, tray and silver cart and cashier's station	6,500.00
15.	8-case drop-front milk cooler	900.00
16.	Dishwasher with soiled & clean dish tables	5,300.00
17.	Mobile folding tables	320.00
18.	Miscellaneous racks, pots, pans, etc.	1,400.00
19.	Mobile 3-well steam table	2,000.00
20.	Mobile utility station	1,400.00
21.	Electrically heated pan carriers	750.00
22.	Insulated pan carriers	600.00
23.	Utility carrier	700.00
24.	Dollies for carriers	350.00
25.	Food pans with cover and sheet pans	700.00
26.	Two-door roll-in refrigerator	3,500.00
27.	8' stainless steel work table	700.00
28.	Angle rack	200.00
29.	Two-compartment sink with drainboards	1,000.00
30.	Convection oven/thaw unit	4,100.00
31.	Walk-in freezer	4,800.00
32.	Preplate cart	550.00
33.	Grill with exhaust/extractor system	2,600.00
34.	Deep fat fryer	1,800.00

TABLE III-5. MEAL DELIVERY SYSTEM EQUIPMENT REQUIREMENTS/COSTS[1]

Full Cafeteria On-Site		Full Cafeteria Off-Site		Satellite[2] (Bulk)		Preplate		Box or Bag	
Equipment[3]	Cost	Equipment[3]	Cost	Equipment[3]	Cost	Equipment[3]	Cost	Equipment[3]	Cost
1 ea. # 1	$ 1,800	1 ea. # 1	$ 1,800	1 ea. # 1	$ 1,800	1 ea. #15	$ 900	1 ea. # 5	$ 1,400
1 ea. 2	7,200	1 ea. 2	7,200	1 ea. 2	7,200	12 ea. 17	3,800	1 ea. 8	1,200
1 ea. 3	1,500	1 ea. 3	1,500	1 ea. 3	1,500	1 ea. 29	1,000	1 ea. 15	900
1 ea. 4	2,000	1 ea. 4	2,000	1 ea. 4	2,000	1 ea. 30	4,100	12 ea. 17	3,800
1 ea. 5	1,400	1 ea. 5	1,400	1 ea. 5	1,400	1 ea. 31	4,800	1 ea. 26	3,300
1 ea. 6	3,000	1 ea. 6	3,000	1 ea. 6	3,000	2 ea. 32	1,100	1 ea. 27	700
1 ea. 7	8,000	1 ea. 7	8,000	1 ea. 7	8,000			1 ea. 28	200
1 ea. 8	1,200	1 ea. 8	1,200	1 ea. 8	1,200			1 ea. 29	1,000
1 ea. 9	900	1 ea. 9	900	1 ea. 9	900				
1 ea. 10	700	1 ea. 10	700	1 ea. 10	700				
1 ea. 11	1,200	1 ea. 11	1,200	1 ea. 11	1,200				
1 ea. 12	6,300	1 ea. 12	6,300	1 ea. 12	6,300				
1 ea. 13	1,300	1 ea. 13	1,300	1 ea. 13	1,300				
1 ea. 14	6,500	1 ea. 14	6,500						
1 ea. 15	900	1 ea. 15	900	1 ea. 15	900				
1 ea. 16	5,300	1 ea. 16	5,300	1 ea. 16	5,300				
12 ea. 17	3,800	12 ea. 17	3,800	12 ea. 17	3,800				
Misc. 18	1,400	Misc. 18	1,400	Misc. 18	1,400				
1 ea. 33	2,600	1 ea. 33	2,600	1 ea. 33	2,600				
1 ea. 34	1,800	1 ea. 34	1,800	1 ea. 34	1,800				
		+ Student Transport Equipment	+	1 ea. 19	2,000				
				1 ea. 20	1,400				
				2 ea. 21	1,500				
				2 ea. 22	1,200				
				1 ea. 23	700				
				2 ea. 24	700				
				Misc. 25	700				
				+ Food Transport Equipment	+				
TOTAL	$58,800		$58,800+		$60,500+ $85,100(4)		$15,700		$12,700
Amortized per meal cost over 15 year equipment life @ 7% cost of capital	.090		.090+		.092+ .032+(4)		.024		.019

NOTES:

[1] Costs may vary according to manufacturer - cost figures shown represent generalized or approximate 1979 equipment costs.

[2] Equipment shown for central food preparation area and one satellite school.

[3] See attached list for equipment nomenclature (Table III-4).

[4] Costs for central kitchen and 4 satellite schools.

costs shown in Table III-5 for 400 students to range approximately with the factors depicted below for larger and smaller operations.

50 Students	400 Students	2000 Students
.65	1.00	2.50

Again, these ratios may vary to a considerable degree depending on the equipment selected, the mode of operation, the number of feeding shifts employed, etc.

Facility Cost. Facility or space requirements and costs are displayed in Table III-6. These requirements and costs are based on U.S. average school kitchen space utilization[3] and provide alternative system comparisons for a 400-student population. Table III-6 also depicts the facilities and space costs as an amortized per meal cost function by applying a 20-year useful life to the facility and calculating the per-meal equivalent cost assuming a 7 percent cost of capital. In some locations where electrical capacity is presently marginal or inadequate, any meal service, even box meals, would require additional power capacity. The cost of installing or refurbishing electrical equipment would have to be added to the indicated facility costs.

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[3]Colorado State University, Final Report, Pilot Study to Assess, Audit and Evaluate Food Delivery Systems Used in School Food Service, Oct. 30, 1976 (U.S. Department of Agriculture, Food and Nutrition Service Contract 12-35-600-183).

Normal E. Payne, Avalon L. Dunga, and David L. Call, The Economics of Alternative Feeding Systems, Cornell University, Ithaca, N.Y., May 1973 (U.S. Department of Agriculture, Food and Nutrition Service Grant 12-35-600-72).

TABLE III-6. KITCHEN FACILITIES/SPACE REQUIREMENTS COSTS

System \ Factor	Facilities/ Space Rqmt.	Cost Per Sq. Ft.[a]	Facilities/ Space Rqmts. Cost	Facilities/ Space Cost[b] Per Meal
Full Cafeteria On-Site	840[c]	$80.00/Sq. Ft.	$67,200	.088
Full Cafeteria Off-Site	840	$80.00/Sq. Ft.	67,200	.088
Satellite (Bulk)	1200[d]	$80.00/Sq. Ft.	96,000	.126
	3120[e]	$80.00/Sq. Ft.	249,600	.080
Preplate On-Site	380	$80.00/Sq. Ft.	30,400	.040
Bag or Box (On-Site or Satellite)	450	$80.00/Sq. Ft.	36,000	.047

NOTES:

a DoDDS determined overseas cost per sq. ft. for school construction.

b Amortized over 20 year facility life at 7% cost of capital.

c Based on average on-site kitchen space determined by Colorado State University under USDA, FNS Contract #12-35-600-183. DoDDS on-site kitchen space criteria is 1500 to 3000 sq. ft. per DoD 4270.1-M.

d 820 sq. ft. central kitchen + 380 sq. ft. in one satellite school (400 meals/day).

Labor Cost. The monthly direct labor component of student meal program costs is depicted in Table III-7 for each alternative system for a 400-student population. The direct labor cost is also shown as an average per-meal cost for labor amortized across the expected number of meals served.

Food Cost. The cost of food and commodities for each alternative system is depicted in Table III-8. These figures represent the estimated average cost for equivalent menu plans and quantities. The value of free USDA commodities is not reflected, as it is assumed that the value of USDA commodities would be the same to the program whatever delivery system is selected. The costs displayed assume a 400-student population.

The costs indicated in Table III-8 are for comparative purposes and may vary significantly depending on the menu selections for the month and/or the particular vendor/manufacturer. The costs shown are based on extrapolations of data from earlier cited studies and on discussions with representatives from the food service industry.

Miscellaneous Costs. Miscellaneous costs are the remaining food service costs not already accounted for in the preceding categories. They include: nonfood supplies, administration, utilities, maintenance, transportation, and support services. These costs are displayed in Table III-9 and were derived by extrapolating data from the above-cited studies and from discussion with stateside school and industry sources.

System costs per meal are summarized in Table III-10.

Effectiveness

The assessment of effectiveness is much more subjective than the measurement of costs, but no less important. A number of measures can be used to assess system effectiveness, some of which are fairly accurately reflected in the operating costs (e.g., direct labor hours per 1000 meals served). To

TABLE III-7. DIRECT LABOR COSTS

System \ Factor	Number of Staff[1]	Monthly Labor Hours[2]	Cost Per Labor Hour[3]	Labor Cost Per Month	Number of Meals Served Per Month	Labor Cost Per Meal
Full Cafeteria On-Site	4	545	$4.55	$2480.00	8,000	.310
Full Cafeteria Off-Site	4	545	4.55	2480.00	8,000	.310
Satellite (Bulk)	5	600	4.55	2730.00	8,000	.341
	11	1344	4.55	6115.00	32,000	.191
Prepiate On-Site	2	168	4.55	764.00	8,000	.096
Bag or Box	3	380	4.55	1729.00	8,000	.216

NOTES:

[1]Staffing represents average number of employees per type of operation based on on-site survey results and industry interviews. Satellite figure reflects both central kitchen personnel and personnel at one satellite school and four schools.

[2]Labor hours required may vary from country to country depending on productivity of employees.

[3]Cost per labor hour is assumed to be $3.50 per hour average with a 30% fringe benefit cost. This rate will vary widely depending on whether dependent labor or local national labor is used and on the benefit packages required by the host nation.

TABLE III-8. FOOD COSTS

Cost Element \ System	Full Cafeteria On-Site	Full Cafeteria Off-Site	Satellite (Bulk)	Preplate On-Site	Box or Bag
Total Per Month	$3,720	$3,720	$3,720	$6,580	$4,340
Cost Per Meal	.443	.443	.443	.784	.517

TABLE III-9. MISCELLANEOUS COSTS

Cost Element \ System	Full Cafeteria On-Site	Full Cafeteria Off-Site	Satellite (Bulk)	Preplate On-Site	Bag or Box
Total Per Month	$665	$680	$1,035	$485	$975
Cost Per Meal	.079	.081	.123	.058	.116

Note:

Miscellaneous costs combine the following elements: nonfood supplies, management/administration, utilities, maintenance, transportation, and support services.

avoid redundancy, we settled on four measures of effectiveness reasonably independent of the previous cost calculations: reliability, participation, community acceptance, and compliance with USDA requirements.

Reliability. For the purposes of this study, we defined system reliability as "the probablity that the meal delivery system will provide the number of meals required, when they are required and in the form they are required." However, because so little quantitative data were available, we

TABLE III-10. SYSTEM COST PER MEAL

Cost Category \ Food Service System	Full Cafeteria On-Site	Full Cafeteria Off-Site	Satellite (Bulk) (1 School)	Satellite (Bulk) (4 Schools)	Preplate On-Site	Box or Bag On-Site/Off-Site
Equipment Acq.	.090	.090	.092	.032	.024	.019
Facilities Acq.	.088	.088	.126	.080	.040	.047
Labor (Direct)	.310	.310	.341	.255	.096	.216
Food/Commodites	.443	.433	.443	.443	.784	.517
Supplies Mgmt./Admin. Utilities/OH Maintenance Transportation Support Services	.079	.081	.123	.123	.058	.116
TOTAL PER MEAL	1.010	1.012	1.125	.933	1.020	.915

were unable to generate numerical probabilities for the reliability of each system. Rather, we have identified those characteristics of each system that affect its reliability, i.e., its location, the quantity and complexity of its equipment, and its vulnerability to external factors.

Any off-site meal system requires timely transportation of children and/or meals. This was a major concern in most locations we visited. In many instances the transport of children and/or foodstuffs was contracted to local companies and subject to labor problems as well as the usual equipment delays or failures. Meal delivery systems depending on timely transportation are also vulnerable to weather and traffic conditions. Thus, an on-site meal delivery system is more dependable than any of the off-site alternatives.

Equipment complexity and quantity have a direct bearing on the reliability of meal delivery system. The full cafeteria system (including satellite preparation facilities) uses both the greatest number of individual items of equipment and the most complex items. Box meals and preplates use the least and the simplest equipment. However, with a full cafeteria system, the failure of any single item is unlikely to be catastrophic. A preplate operation using only one convection oven would have to close down totally if that unit failed. Given the low failure frequency of this type of equipment, this does not appear to be a major concern, although availability of spares and ease of service should be considerations in selecting an equipment vendor.

Finally, external factors have a bearing on the reliability of a meal delivery system. These factors would include loss of power, disruption of supply, and labor actions (e.g., walkouts/strikes).

A loss of power will disrupt the food preparation capability of any system. The full cafeteria, however, would generally have a sufficient variety of food available to prepare a cold meal for that day. With the

preplate system, on the other hand, an emergency cold lunch would have to be provided through another system entirely (e.g., exchange snack bar or troop feeding facility).

Similarly, an interruption in food supply would have less impact on the full cafeteria operation because alternative sources would be readily available whereas alternatives compatible with a preplate system would be much harder to find.

Still, a walkout or strike would probably close down a full cafeteria or satellite operation. A preplate system could continue operating with untrained personnel, such as school staff, volunteer dependents, assigned military persons or students.

Table III-11 summarizes the reliability discussion by assigning a subjective assesssment for each reliability factor discussed to each of the alternative systems.

Participation. Student participation is a significant measure of a meal program's effectiveness. High participation is essential to the achievement of both nutritional objectives and the most effective use of labor and equipment.

No authoritative research appears to be currently available comparing student participation across delivery systems except for the 1976 Colorado State University study. We did conclude on the basis of both that study and the opinions expressed by many persons interviewed that the very best on-site cafeterias inevitably show the highest participation. However, food quality varies widely from one cafeteria to another, while there is much less variation in quality among preplate systems. Many of the persons interviewed thought that preplate systems achieved lower student participation than other systems due to blandness of food, poor appearance, and low appetite

TABLE III-11

SYSTEM EFFECTIVENESS - RELIABILITY

FACTOR \ SYSTEM	FULL CAFETERIA ON-SITE	FULL CAFETERIA OFF-SITE	SATELLITE BULK	SATELLITE PREPLATE	PREPLATE ON-SITE	BOX OR BAG ON-SITE	BOX OR BAG SATELLITE
TRANSPORT DISRUPTION	N/A	HIGH	HIGH	HIGH	N/A	N/A	HIGH
EQUIPMENT FAILURE FREQUENCY	HIGH	HIGH	HIGH	MODERATE	LOW	MODERATE	MODERATE
EQUIPMENT FAILURE EFFECT	MODERATE	MODERATE	MODERATE	MODERATE	HIGH	MODERATE	MODERATE
POWER FAILURE	HIGH	HIGH	HIGH	HIGH	HIGH	MODERATE	MODERATE
SUPPLY DISRUPTION	MODERATE	MODERATE	MODERATE	HIGH	HIGH	MODERATE	MODERATE
LABOR DISRUPTION	HIGH	HIGH	HIGH	MODERATE	LOW	MODERATE	MODERATE
TOTAL	5	2	2	3	7	8	5

RATING SCALE

EFFECT OF DISRUPTING FACTOR	RELIABILITY SCORE
N/A	3
LOW	2
MODERATE	1
HIGH	0

appeal. We were unable to find substantial conclusive evidence to either support or refute that opinion. Industry spokesmen contended that preplates had equal acceptance with other alternative systems. The dearth of good comparative system participation studies and the conflicting results in the available literature forced us to conclude that participation was more greatly influenced by student age, dining environment, meal price, variety and availability of outside alternatives than by delivery system.

Stateside student meal programs generally consider a participation rate of 70 percent of eligible elementary students or 50 percent of eligible high school students to be indicative of a successful meal program. The available data indicate that when properly set up and managed, any of the system alternatives can achieve these goals.

Community Acceptance. Community acceptance, like student participation, depends less on the actual system and more on such factors as perceived need, price, management attitude, and convenience. The key to optimizing this parameter is to select a system which minimizes meal price, is of consistent quality, and is simple to implement and operate. Any of the system alternatives when combined with concerned management can achieve high community acceptance.

It should be noted, however, that if a preplate system is chosen, the vendor should be selected carefully. Variations between vendors can make a substantial difference in student participation and ultimately program success.

Compliance With USDA Nutrition Requirements. This is an obvious but essential measure of program effectiveness. Only by meeting USDA requirement can a program satisfy the intent of the enabling legislation and become eligible for USDA subsidy support.

All the system alternatives are capable of satisfying the USDA nutrition requirements. The 1976 Colorado State University Study concluded that there was no significant difference in delivered nutritional content among the meal delivery systems studied. In theory, compliance should be easiest to assess with the preplate system, because the contents of the meal should be specifically predetermined by the manufacturer to meet the USDA standards. Yet a 1977 study of the New York City School Lunch Program reported deficiencies in both the volume and nutritional content of preplates provided to that system and suggested that constant monitoring of vendor output is required to assure continued compliance.[4] Monitoring, however, is essential regardless of the delivery system employed. The combination of central and local sampling of preplates may be, in fact, more effective and less costly than the solely on-site sampling required in the other systems.

In conclusion, effectiveness is less dependent on system configuration than on other operational variables. Any of the candidate systems is capable of performing effectively, given careful selection and preparation of meals; supportive, enthusiastic management (base, school and operator); a convenient and pleasant dining environment; and reasonable meal pricing.

Feasibility

The examination of cost and effectiveness provides a theoretical construct within which to examine the relative merits of the alternative systems. However, feasibility is the true acid test of a system. Feasibility is contingent on several factors, including space, support services, labor supply, and community support.

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[4]Phyllis Liquori and Peggy Ravich, "The Food Fiasco: Nutritional Neglect in the New York City School Lunch Program." Columbia University and Food Law Project, Community Action for Legal Services, 1977.

Space. Currently, about 42 percent of the DoD schools have adequate space to accommodate a full cafeteria kitchen. Of these, about two-thirds already have kitchens in place. The remaining 58 percent of DoD schools could not accommodate a cafeteria kitchen without construction of a new cafeteria facility.

Within the current DoD budget the military construction program has been pared down to provide only for facilities vital to combat readiness, military operations, safety, pollution abatement and the conservation of energy. Upgrading, replacement, or modernization of existing facilities have been almost entirely deferred. Under these constraints, DoD is compelled to utilize meal systems which are compatible with, or at least feasible within, existing school/base facilities and conditions. Yet alternative facilities (e.g., snack bars, clubs, troop feeding facilities, etc.) at most locations would not be capable of providing adequate student meal service, for reasons of capacity, environment, timing, etc. Still, of the schools without adequate space for a full cafeteria, about 90 percent would be able to find adequate space to accommodate a satellite bulk, preplate, or box lunch/soup and sandwich operation.

Support Services. Each of the meal delivery system options is dependent upon the availability of adequate support facilities or capabilities at or near the school location. These include: chill and/or frozen storage capacity, dry or bulk storage capacity, transport and delivery, equipment and facility maintenance, and sanitation.

Chill and/or frozen storage capacity is in short supply throughout most of Europe, and many locations are already sorely taxed to meet current demand. The situation in the Pacific is mixed, with some locations (e.g., Okinawa, the Philippines) having adequate capacity to cope with any expected

increased load from a student meal program, and others being hard pressed to meet existing requirements.

Many of the existing military chill and frozen storage facilities are obsolete or badly in need of repair. Commercial frozen storage facilities are already being leased, and the outlook is for even greater dependence on them in the future. Our prognosis is that, with or without the additional burden of a student feeding program, the overseas chill and frozen storage facilities will require a significant upgrade. In the interim, we believe that, in most locations, adequate leasable commercial chill/frozen storage facility is available to handle the additional load created by selection of any of the student meal delivery systems.

Dry or bulk storage capacity is generally adequate at most bases, and none of the alternatives presented would create problems in this area.

Transport and delivery of foodstuffs and/or students could present significant difficulties. Our discussions with base commanders and school administrators revealed that, in many locations, student transportation was handled by local contractors and that any requirement for student transportation at lunchtime would mean renegotiation of contracts and might not be feasible at all. Transportation of frozen and/or hot bulk food would present a problem in some places, due to a lack of suitable vehicles. The scope of this study did not permit quantification of probable vehicle acquisition costs associated with the various meal system alternatives.

Maintenance support for school and meal service equipment was generally viewed as inadequate by school administrators. Frequent complaints were heard about slow or nonexistent responses to requests for equipment repair. High equipment failure rates and inability to obtain/replace malfunctioning parts were major sources of irritation. The problem arises

largely from the tight budget situation at most bases. O&M resources must be allocated against many requirements and demands and, in general, many school-related needs are given a lower priority than other, mission-related needs. This situation is not expected to change in the foreseeable future. Therefore, due consideration must be given to selecting a meal system with high reliability.

Sanitation support services are essential in two areas: (1) inspection and verification of compliance with health codes and standards and (2) clean-up and waste disposal. It is anticipated that inspection and verification would continue to be the responsibility of the base veterinarian, and those services appeared generally adequate at most bases. At many locations, however, concern was expressed over the difficulty of complying with the health and sanitation standards, especially in antiquated full cafeteria operations. Of all the alternatives considered, preplates present the least difficulty in health code compliance.

Clean-up and waste disposal responsibility are presently, and should continue to be, divided between the manager/operator organization and base sanitation organization. The manager/operator typically has the responsibility for clean-up of all food preparation and serving areas, and base sanitation has the responsibility for clean-up of cafeteria dining space and garbage collection and disposal.

In general, this arrangement was functioning adequately at most facilities visited. In terms of operator/manager clean-up, the simplicity of the preplate system is a distinct advantage over the other system alternatives. The base sanitation dining area clean-up/waste disposal function appears to be largely unaffected by the system choice. Waste volume would be

greater with preplate due to the fact that all meal packaging components are disposable.

Labor. Low-skill labor supply in most locations is not a problem. The cost of that labor, however, is a significant problem in a number of overseas locations. In places like Germany, Japan, and Turkey, many non-essential support activities (e.g., snack bars, clubs, etc.) have been severely curtailed or eliminated as a result of the extremely high cost of local national labor.

In many locations, the status of forces and host-tenant agreements require the use of local national labor in filling certain low-skill jobs. Food service positions are frequently designated for local national labor. Because the cost of such labor is often significantly higher than comparable stateside labor and because labor costs are seen as the fastest rising cost element in overseas food service operations, use of the lower-labor intensive meal systems (e.g., preplate) is preferable.

Where possible, new school meal service positions should be defined in terms that will allow them to be filled with dependent labor. We found, at every location surveyed, an adequate supply of low-skill dependent labor eager for employment. The cost of this labor, in most locations, would be substantially less than for local national labor.

Community Support. During our on-site surveys, we generally found substantial community support for the implementation of a school meal program. The DoDDS system personnel and the military overseas community generally favor a school meal program and wish to see one implemented as soon as possible, with a minimal disruption and at the lowest possible cost.

The persons interviewed at most locations did not have a delivery system preference as long as the meals were nutritious and low-cost. At

schools with severe space constraints, those interviewed tended to favor the adoption of a preplate system primarily because they perceived that system to be the easiest and fastest system to implement.

Summary

The key factors of the system analysis have been placed in a matrix (Table III-12) and each system has been given a figure of merit rating for that factor, based on our judgment of how well the criterion has been satisfied. On the basis of this evaluation, the preplate system and the box/soup and sandwich system are approximately equal and significantly ahead of the other alternatives.

LOGISTICAL SUPPORT

An adequate system of logistical support is essential to the success of the DoD student meal program. We sought to identify the most effective means of logistics support that would maximize the use of existing resources and minimize additional resource costs. Three approaches were considered:

- Worldwide military food distribution network
- The military exchange systems
- Commercial contractors

Each is explained in detail below.

Worldwide Military Food Distribution Network

The responsibility for DoD worldwide logistical support is assigned to DLA; subsistence logistics is handled through its support activity, DPSC. Commissaries and Troop Issue Support Activities (TISA) provide the local distribution outlets.

The DPSC procures, inspects, stores, and ensures delivery of subsistence items to its customers. Employment of the DLA-DPSC support

TABLE III-12. SYSTEM SELECTION MATRIX

Criterion \ System	Full Cafeteria On-Site	Full Cafeteria Off-Site	Satellite (Bulk)	Preplate	Box or Soup & Sandwich
Cost	7	7	7	7	7
Reliability	6	5	5	7	8
Participation	8	7	6	5	7
Community Acceptance	7	7	7	7	7
USDA Requirements	7	7	7	7	7
Space	5	5	6	9	7
Support Services	6	5	5	5	7
Labor Availability & Skill	4	4	4	8	7
TOTAL	51	48	48	55	57

Rating Schedule

Criterion not satisfied - 1
Criterion completely satisfied - 10

network would minimize student meal service program costs through the use of existing contract administration, procurement, and shipping services.

The commissary system has several characteristics which recommend it as a generally effective local subsistence support element:

- The commissary system is an existing entity, with established lines of communication and an organizational structure which connects the local commissary with the DPSC. It thus can easily bring to bear a complex organization's experience and resources on the problem of subsistence support for a worldwide student meal service.

- A commissary is located sufficiently near most DoD schools to be able to provide adequate support.

- The commissary system includes, or has access to, considerable warehousing capabilities.

- The commissary has experience in providing support to food service nonappropriated fund activities such as service clubs and open messes.

The use of the commissary as local agent would tend to maximize the use of existing facilities and personnel resources. It would preclude the need to establish another subsistence item distribution capability. The local school food service operation would use the commissary much like any other customer, except for the addition of certain requirements to ensure proper ordering, stocking, and handling. In essence, the user would simply plug into an already existing system.

A possible argument against selection of the commissary complex for local logistics support is the recently consistent annual attempt to eliminate commissary support from defense appropriation legislation. Eliminating appropriated fund support of commissary operations would have more far-reaching effects than just in the proposed support of a school meal program. It is beyond the scope of this report to speculate on the impacts of possible changes in the level of commissary appropriations.

An alternative to the commissary in certain areas, particularly in Germany where the most concentrated need exists, is the TISA. These activities are the military mission-oriented clients of the DLA that provide subsistence items to military dining halls. They differ from the commissary in four important ways:

- They are not resale activities and are intended primarily to supply the military dining halls.
- The majority of the TISA procurement is generic rather than brand name.
- Most TISA stock is in bulk quantities and institutional containers, reflecting its mission of mass feeding.
- The U.S. Army TISAs are more centralized and, as such, are not as ubiquitous as the commissaries.

A likely objection to use of the TISA is that it is designed primarily to provide subsistence support to military activities, i.e., the military dining halls. The addition of nonmission-related responsibilities may dilute its effectiveness in its primary mission. Considerable precedents exist, however, for TISA's support of nonmission-related activities, e.g., nonappropriated fund clubs, drawing on the TISA. Since the commissary is authorized to draw on the same DPSC stocks that the TISA draws on, we perceive no significant benefit to be derived from use of the TISA vs. the commissary as local delivery point for foodstuffs for the student meal program.

Military Exchange Systems

At present, nearly 50 DoD schools have lunch programs provided by the military exchanges, predominantly the AAFES. Should the determination be made to maintain these programs essentially intact, it may be advisable to maintain logistical support within the exchange system for the short term. Such a decision would eliminate, temporarily, some changeover costs and allow for application of the limited resources for implementation of a student meal

program at schools where no program currently exists. In the long term, however, it may be both desirable and necessary to consolidate logistics functions under the aegis of the DLA to maintain management control, ensure communications integrity, and reduce the number of separate agencies with which the school meal program manager must coordinate.

Appropriated fund support of transoceanic shipment of goods to overseas military exchanges, like that for the commissary system operation, has opposition in Congress. The opposition was successful in reducing the fiscal 1979 appropriation by about 5 percent. The apparent trend to reduce military exchange ocean shipment funding is seen as an argument against continuing the exchange systems' distribution of school system food.

Commercial Contractors

We examined the feasibility of private contractor-provided logistical support. The potential advantages of using a commercial contractor for this function included:

- Some contractors have their own - or access to - logistics supply channels to areas of significant school concentrations which may be more cost effective than other alternatives.
- Some contractors claim capability of more expeditious foodstuff delivery than the military network. If so, food ordering lead times and local inventories could be reduced.
- Use of contractor facilities abroad might relieve pressure on cold and frozen storage facilities where capability is known to be critically short.
- Government policy favors use of private sector where feasibile to provide industrial-type services.

The perceived disadvantages of using a commercial contractor included:

- No single contractor effectively serves all school locations worldwide.
- It is doubtful that a single contractor could develop a worldwide, cost-effective network to all school locations.

- No single contractor is likely to achieve a volume leverage capability to the degree achieveable in the military food distribution network.

- Back-up supplies or alternative foodstuffs would not be as accessible from contractor network as from military distribution systems.

- The local link of the military distribution network is continuously available to school food service operators for consultation and delivery status information. This continuous service may not be available from commercial contractors.

Cost

The logistics costs to support an overseas school meal program would represent a very small amount of incremental expense within the existing distribution apparatus of the government. This becomes clearer when one considers that if the cost of food for each of the approximately 134,000 students in DoDDS was $1.00 per meal, per day, for the entire school year, that total cost would be equal to only about 2 percent of the total subsistence procurement of the DPSC in 1976. (Since most overseas school children presently consume some type of lunch, and since most of the food comprising those lunches is transported overseas and distributed by a military or military-associated organization, the total additional requirement would amount to significantly less than 2 percent.)

USDA Commodities

The detailed regulations surrounding the acquisition and disposition of USDA-donated commodities make them relatively cumbersome for the DLA system and a DoD student meal program. These donated commodities comprise a major part of the standard per-meal subsidy granted by the Federal Government. Clearly, when used effectively, the commodities are a major factor in keeping meal prices low.

The DoDDS system has received certain USDA-donated commodities for approximately two years on a limited scale. The DoDDS commodity entitlement

for school year 1978-1979 amounted to $0.8 million, or less than two-tenths of one percent of the 1979 budget for the USDA commodity distribution program. Furthermore, even if one assumed that under the new legislation, each of the approximately 134,000 DoDDS students received the maximum commodity entitlement, the total value would still equal less than one percent of the 1979 USDA commodity distribution program.

Several factors combine to make the use of USDA commodities in a DoDDS meal program difficult, and as a result, potentially deleterious to the effective functioning of the program.

- Neither the commissary nor the DPSC has significant experience in handling USDA commodities in either the diversity or scale projected for the student meal program.
- Because of segregation requirements, DPSC would be required to add to its current list of items available, thereby necessitating increase in DPSC inventory management costs.
- Again, because of segregation requirements, inventory duplication is likely to occur, e.g., two separate stock numbers and different authorized requisitioners for physically identical items.

For these reasons, we are not enthusiastic about the requirement that donated commodities be used in the DoD system, and suggest that the DoD attempt to negotiate a cash in lieu of commodity subsidy agreement with the USDA.

The problems associated with the integration of USDA commodities in a DoD subsistence support apparatus however may be eased considerably through reliance upon a frozen preplate program. Present law allows use of USDA commodities by commercial food processors in those products specifically used by schools participating in the National School Lunch or Breakfast programs. The savings accruing to the manufacturer from such use must be reflected in the price charged the school program.

Alternatively, these commodities could be targeted for distribution in one area for absorption of the entire allotment. The absorption of a high percentage of USDA allotment by a specific target area would not necessarily deny the benefit to children outside of the target distribution area. Intra-system accounting transfers could provide for equalization of subsidy benefits. This practice could provide a greater degree of flexibility in distribution than would be possible if the commodities were distributed world-wide.

Summary of Logistics Support Alternatives

In our consideration of support candidates, we attempted to identify and isolate those characteristics of each which would affect the ability to provide adequate support. We compared the candidate solutions to evaluate the candidates' overall capability to support a DoD student meal system. Table III-13 illustrates the major criteria used and our judgments of the candidates' ability to meet them.

SUMMARY OF KEY FINDINGS

Above-School-Level Management

- No DoD organization, agency, or component is presently configured, staffed or funded to provide for management of a system-wide student meal service in the overseas dependents schools.
- The Congressionally directed, consistent trend in the administration of education and supporting functions in the overseas dependents schools has been towards centralization of responsibility in the Office of the Director, DoDDS.
- DoDDS is the only existing agency with a complete organizational network from the executive levels of DOD to every local site where student meal service would be offered.

Local-Level Management and Operation

- DoDDS has no experience in food service operations and no existing infrastructure for managing food service at the local level.

TABLE III-13. ADVANTAGES AND DISADVANTAGES OF ALTERNATIVE LOGISTICS SYSTEMS

Criterion \ System	DLA/DPSC/ Commissary	Exchange Systems	Contractor
Present Capability	High 3	Moderate 2	Low 1
Infrastructure	Developed 3	Developed 3	Rudimentary 1
Experience with Worldwide Distribution to Military Bases	High 3	High 3	Moderate 2
Experience with Overseas Student Meal Services	Low to Moderate 1.5	High 3	Low to Moderate 1.5
Flexibility	Moderate 2	Low 1	High 3
Start-Up Expense	Low 3	Low 3	Moderate to High 1.5
Risk of Labor Disruption	Low 3	Moderate 2	High 1
Ability to Achieve Economies of Scale	High 3	Moderate 2	Moderate to Low 1.5
Overhead Charged to User	No 2	Yes 1	Yes 1
Ratio of New Requirement to Present Capability	Low 3	Moderate 2	High 1
TOTAL	26.5	22	14.5

Three Point Rating Scale

High Satisfaction of Criterion 3
Moderate Satisfaction of Criterion 2
Low Satisfaction of Criterion 1

- Local management by the individual Services has the disadvantages of unnecessary duplication of effort, competition with other Service priorities for funds and perceived conflict with the military mission.

- Numerous independent contractors (including the military exchanges) are available, who have experience in managing and operating food service programs at overseas military bases.

- With independent contractors, management and control responsibilities can be clearly defined, and there is no possibility of mission conflict.

- Use of contractors is consistent with government policy of minimizing growth and relying on the private sector for goods and services.

Meal Delivery Systems

- About 28 percent of the schools have existing lunch programs which are capable fo meeting USDA Type "A" requirements.

- About 72 percent of the schools have no student meal programs.

- A large percentage of schools have no kitchen facilities and no place for the students to eat other than classrooms.

- Student transportation is a problem in many locations.

- Electrical power and chill and frozen storage space are inadequate in many locations.

- Skilled food service labor is in generally short supply. Unskilled labor is available but the costs of hiring foreign nationals (as required by some U.S.-host country arrangements) are often prohibitive.

- All meal delivery systems evaluated are capable of meeting USDA requirements.

- Total delivered per-meal cost and effectiveness are approximately the same for all systems studied.

- Student participation is affected more by food preparation, dining environment, manager/operator attitude, and cost than by system configuration.

Logistical Support

- DLA/DPSC is a functioning system providing subsistence support to U.S. military activities worldwide.

- DLA/DPSC has far greater resources than any other alternative in logistics management and contract administration expertise, procurement leverage, facilities, and equipment.

- Each commissary is directly linked to DPSC and is experienced in selling to meal preparation activities.

- A commissary is located sufficiently near most schools to be able to provide adequate, reliable support.

IV. IMPLEMENTATION

This chapter addresses the following aspects of implementing our recommendations for the establishment of a DoD student meal service:

- Organization structure and responsibilities
- Relationships with other agencies
- Staffing requirements
- Implementation priorities
- Costs

The scope of the study did not permit evaluation of all management levels and school/community sites sufficiently detailed to provide precise costing. Rather, the chapter is intended as a point of departure for more detailed implementation planning, programming, and budgeting. Additional effort by DoDDS will be required to apply our general recommendations to specific situations; some of these tasks are identified in the last section.

ABOVE-SCHOOL-LEVEL ORGANIZATIONS

Headquarters Staff

The headquarters staff should be organized to carry out the following types of executive responsibilities:

- Development of student meal service policy and operating guidelines, including publication of a companion volume to "Administrative and Logistic Responsibilities for DoD Dependent Schools" (DoD 1342.6-M-1).

- Liaison and coordination among the military departments.

- Liaison and coordination among other DoD agencies and field activities including: DLA, DPSC, the Defense Contract Audit Agency, the Deputy Assistant Secretaries of Defense, and the military exchange systems headquarters.

- Liaison and coordination between DoDDS and the USDA Food and Nutrition Service. This would include the determination of subsidy support levels and commodity availability, arrangement for USDA technical assistance, rendering of reports, and exchange of National School Lunch Program and Child Nutrition Program information.

- Promulgation of information about the student meal program to regions, schools and contractors.

- Preparation of promotional material for distribution to students and parents.

- Liaison and coordination with the other DoDDS divisions, as follows:

  - Coordination with the education division in development of appropriate nutrition and diet course material

  - Coordination with the logistics division in dealing with other sections of ASD(MRA&L) and related agencies such as DLA.

  - Coordination with the personnel division in developing staffing criteria and position descriptions and in recruiting.

  - Coordination with the fiscal division in establishing food service accounting, reporting, reviewing, and audit procedures.

The following estimates of headquarters staffing requirements are based on USDA State Staffing Standards.[1]

1.	Sites. The number of potential sites for student meal programs.	250 (estimate)
2.	Sponsors. Roughly equivalent to school districts/regions.	5
3.	Total of items 1 and 2.	255
4.	Auditors. One employee per 50 sponsors, minimum of 1.	1
5.	Administrative Office Employees. One employee per 1000 of total sites and sponsors, maximum of 5. Minimum of 1.	1
6.	Consultants and Nutritionists (including specialists). One employee per 250 of total sites and sponsors, maximum 2.	2
7.	Geographic Area Consideration. Variable number of additional employees based on geographic size of state ranging from 0 to 4. Geographical considerations taken into account in region staffing.	0

[1] "Recommended State Staffing Standards for State Agencies to Administer Child Nutrition Programs." Subject to Regional Office Consideration, U.S. Department of Agriculture, July 1, 1978.

8. Total Administrative Employees. Total of items 4-7. 4

9. Clerical Support. One per 4 administrative employees. 1

10. Secretary for Director and Assistant. 1

11. Number of Claims. Equal to or less than the number of schools with student meal programs. 250 (estimate)

12. Claims Reviewers. One employee per 350 claims processed per month, minimum 1. 1

13. Director and Assistant. 2

14. Total DoDDS Headquarters Staff Employees. Total of items 8-10 and 12-13. 9

Nine is the smallest number of employees listed for participating domestic jurisdictions. For comparison purposes, figures for three small jurisdictions are shown below, along with those for the state with the highest number of employees:

Item (as above)	District of Columbia	Montana	Hawaii	California
1	317	108	311	8,818
2	60	46	1	1,901
3	377	154	312	10,719
4	1	1	1	38
5	1	1	1	5
6	2	2	2	43
7	0	0	0	3
8	4	4	4	89
9	1	1	1	22
10	1	1	1	1
11	60	46	402	3,145
12	1	1	1	9
13	2	2	2	2
14	9	9	9	123

The USDA staffing standards may not be entirely applicable to DoDDS staffing requirements. An assistant meal service division head may be neither required nor desirable on the headquarters staff. Nutritional services might

be supported by an agency within the DoD Food Service Program (which is under the authority of ASD(MRA&L)).

Pooling of administrative services in DoDDS headquarters may alter the assignment of meal service clerical staff. The integration of new and existing staff functions may allow migration or reassignment of existing positions.

While the student meal program is being implemented, some of the functions eventually to be executed by the meal service division may have to be performed by other DoDDS divisions. The most likely candidate is the logistics division, which already handles distribution of the small amount of USDA commodities presently used.

Regional Staff

The student meal service divisions of the regional DoDDS staffs will have diverse responsibilities such as:

- Dissemination of DoDDS, USDA, and regional meal service policy, practices and requirements to school-level management personnel.
- Review, collation, and transmission of food service reports to DoDDS headquarters to facilitate subsidy distribution.
- Provision of technical assistance to schools. The regional office should be able to provide assistance in contract administration, procurement, subsistence item logistics, and nutrition, either directly or through access to existing services on bases within the region.
- Audit of program operation to insure that financial and other requirements are being met.

Table IV-1 shows a comprehensive staffing plan for above-school-level organizations in terms of the reorganized DoDDS System. School system statistics are included to give some idea of the size of the whole system in relation to above-school-level organizations.

TABLE IV-1. ABOVE SCHOOL LEVEL STAFF

Jurisdiction	DoDDS HQ	Atlantic	Mediterranean	Germany-North	Germany-South	Pacific	Total
Countries(a)	-	11	6	1	1	4	22
Schools(a)	-	47	39	73	63	39	261
Students(a)	-	15,715	14,850	45,000	36,000	23,540	135,105
Director	3	3	3	3	3	3	18
Education	24	21	21	22	22	21	131
Logistics	10	10	10	10	10	10	60
Personnel	16	5	6	4	4	6	41
Fiscal	11	10	8	10	10	9	58
Admin. (*Executive*) Services	9	5	5	6	12	5	42
Meal Service Region Office	9	3	3	3	3	3	24
TOTAL: W/O Meal Serv.	73	54	53	55	61	54	350
TOTAL: With Meal Serv.	82	57	56	58	64	57	374

(a) The numbers of countries (including islands), schools, and student population change from document to document, reflecting dynamic changes in school system structure. This set of system statistics is taken from the "Concept Plan for Reorganization of the Department of Defense Overseas Dependents Schools Programs."

Staffing Levels and Operating Costs

The staffing requirements and costs reflect GS grade level for headquarters and regional food service staffs. Costs are displayed for personnel, travel, and office space and utilities. The USDA State Staffing Standards were applied to determine the central staff structure. Regional staff structure was determined by estimating its workload and applying the result to the headquarters/regional distributions of staff in existing support divisions. Grade structure was determined by applying the ranking of the existing support division structure in headquarters and the regional offices. Salary estimates are an approximation of the mid-range within the appropriate grade. Total billet cost included the following factors:

- Benefits - 1.3 x salary[2]
- Overseas offset - 2.0 x salary[3]

Table IV-2 displays staffing levels and annual personnel costs.

Travel Costs. A management estimate was made for travel by headquarters personnel to regional offices and school sites and for travel by regional office personnel to headquarters and to sites within the region.

Office Costs. An estimate was made for the meal service staff proportion of office "rent" and utilities.

A summary of annual personnel, travel, and office costs is displayed in Table IV-3. Total annual above-school-level management costs are estimated at $1.3 million.

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[2]As recommended by DoD civilian personnel specialists.

[3]As recommended by the State Department Allowances Section.

TABLE IV-2. STAFFING LEVELS AND ANNUAL PERSONNEL COSTS

JURISDICTION	GS 14	GS 13	GS 12	GS 11	GS 5	GS 4	Total Personnel	Total Costs (x$1,000)
DoDDS HQ	1	2	1	2	1	2	9	268
Atlantic	0	1	1	0	0	1	3	160
Mediterranean	0	1	1	0	0	1	3	160
Germany/North	0	1	1	0	0	1	3	160
Germany/South	0	1	1	0	0	1	3	160
Pacific	0	1	1	0	0	1	3	160
TOTAL PERSONNEL	1	7	6	2	1	7	24	
TOTAL COSTS (x$1,000)	48	451	344	57	16	152		1,068

TABLE IV-3. ANNUAL ABOVE-SCHOOL-LEVEL MANAGEMENT COSTS

JURISDICTION	Personnel Costs	Travel Costs	Office Costs	Total Costs (x$1,000)
DoDDS HQ	268	24	30	322
Atlantic	160	28	12	200
Mediterranean	160	28	12	200
Germany/North	160	18	12	190
Germany/South	160	18	12	190
Pacific	160	29	12	201
TOTAL	1,068	145	90	1,303

LOCAL-LEVEL OPERATION

Baseline

The DoDDS school system is comprised of 257[4] schools serving approximately 134,800 students. The majority (59.8 percent) of these students are located in Germany. No other country has more than 7 percent of the total student population. The distribution of students by country is displayed in Figure IV-1. Two-thirds of the total student population are enrolled in only one-third of the schools. The distribution of students and schools is displayed in Figures IV-2 and IV-3. On the basis of our on-site visits and mail survey results, 28 percent of the schools had satisfactory programs, 6 percent had no program but space capable of accommodating an on-site cafeteria, 47 percent had unsatisfactory programs or no program and insufficient space for an on-site cafeteria, and 19 percent of the schools did not respond or offered insufficient data to permit characterization.

The 19 percent of the schools in the unknown category were redistributed between two categories, (1) schools with space for an on-site cafeteria and (2) schools with insufficient space for an on-site cafeteria, in proportion to the known distribution of schools already in those categories. This was done to assure that the gross implementation cost estimates accounted for all DoDDS schools. This redistribution results in 28 percent of the schools having currently adequate operations (we believed that all schools in this group had already been identified), 14 percent having adequate space for an on-site cafeteria, and 58 percent having insufficient space for an on-site cafeteria. These figures were then employed to extrapolate expected implementation costs using the functional cost data presented in Chapter III.

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[4]The number of schools in the system varies from document to document, reflecting the dynamic nature of the system structure. All calculations and projections in this subsection are based on 257 schools.

FIGURE IV-1

DISTRIBUTION OF STUDENTS BY COUNTRY

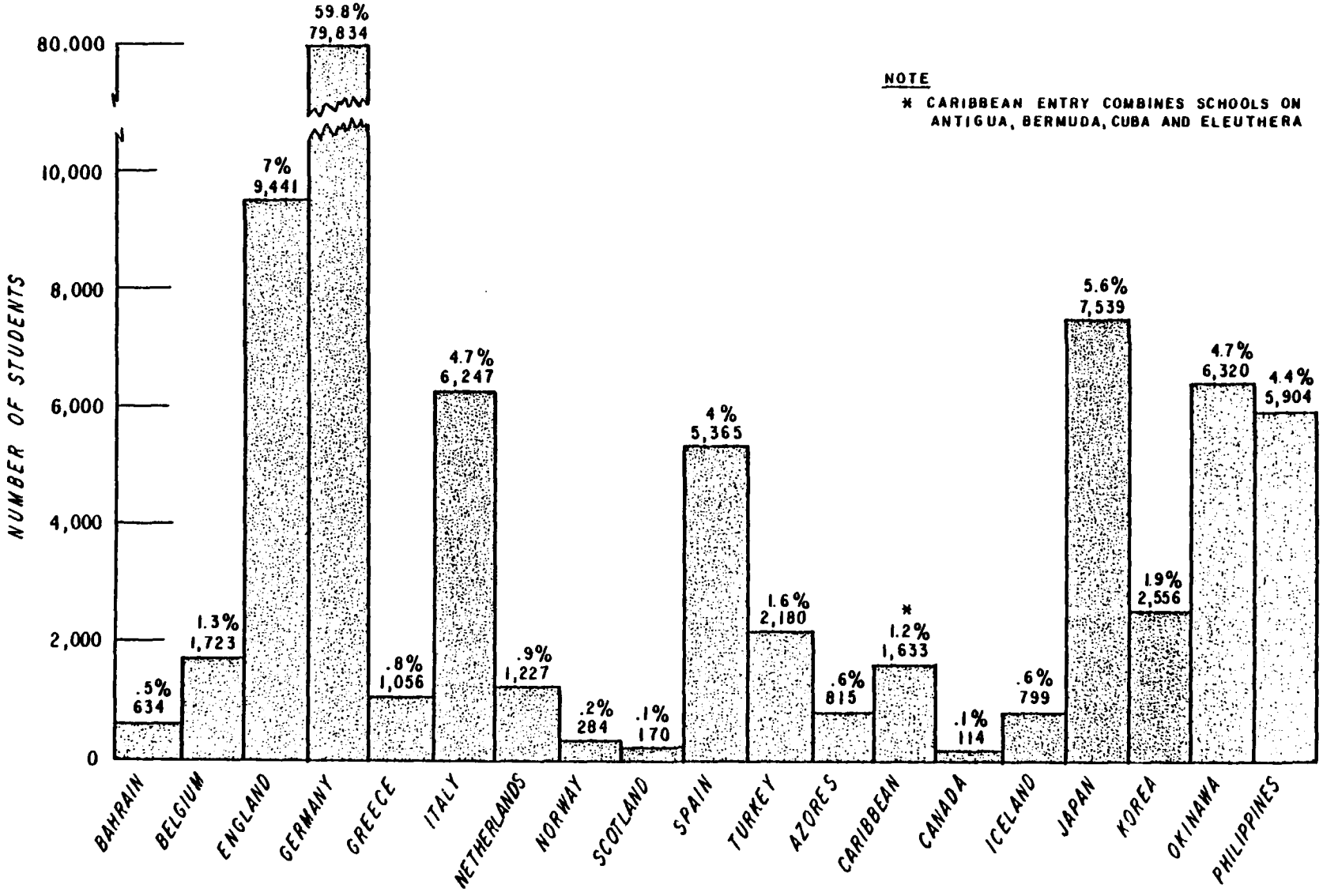


FIGURE IV-2

DISTRIBUTION OF SCHOOLS

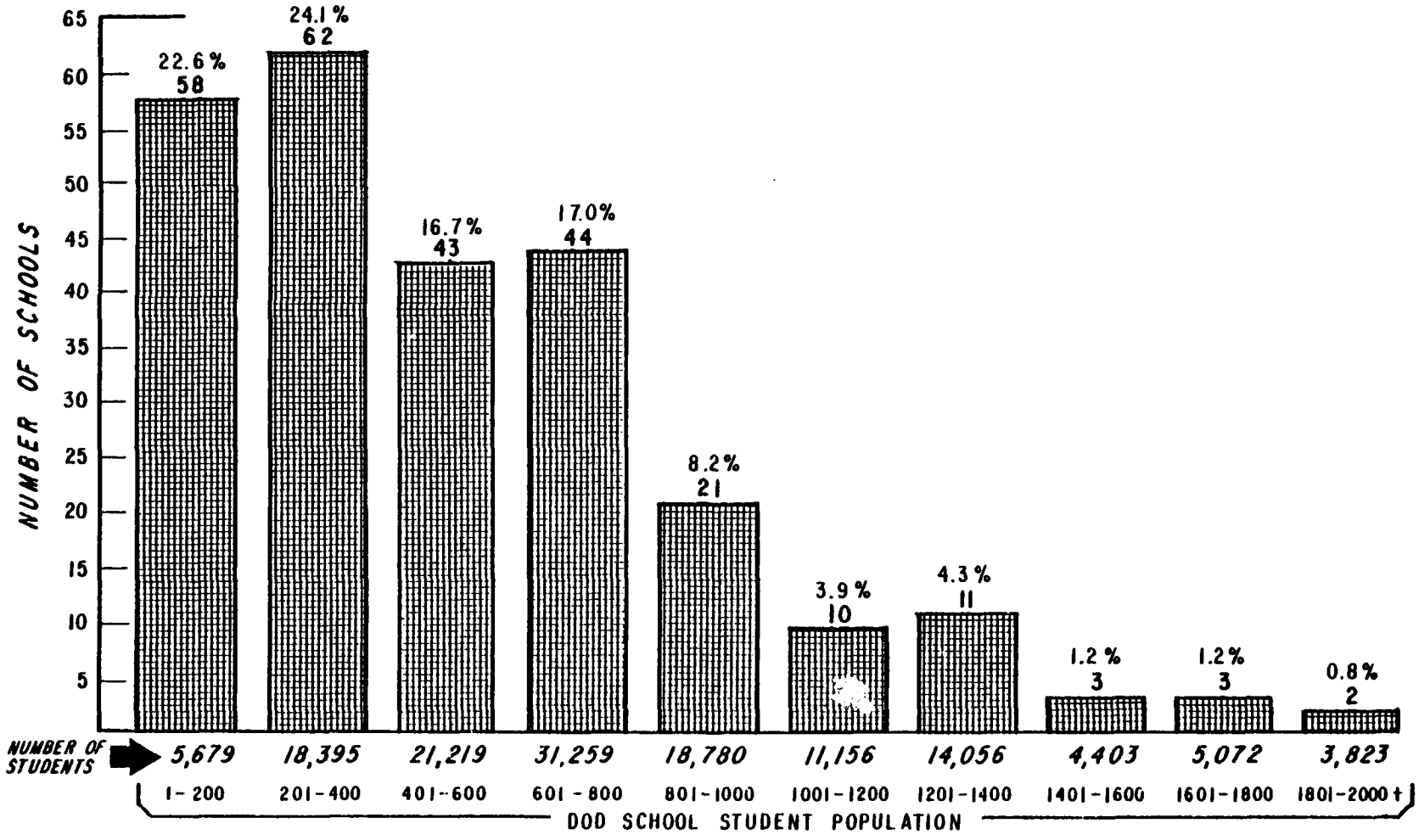
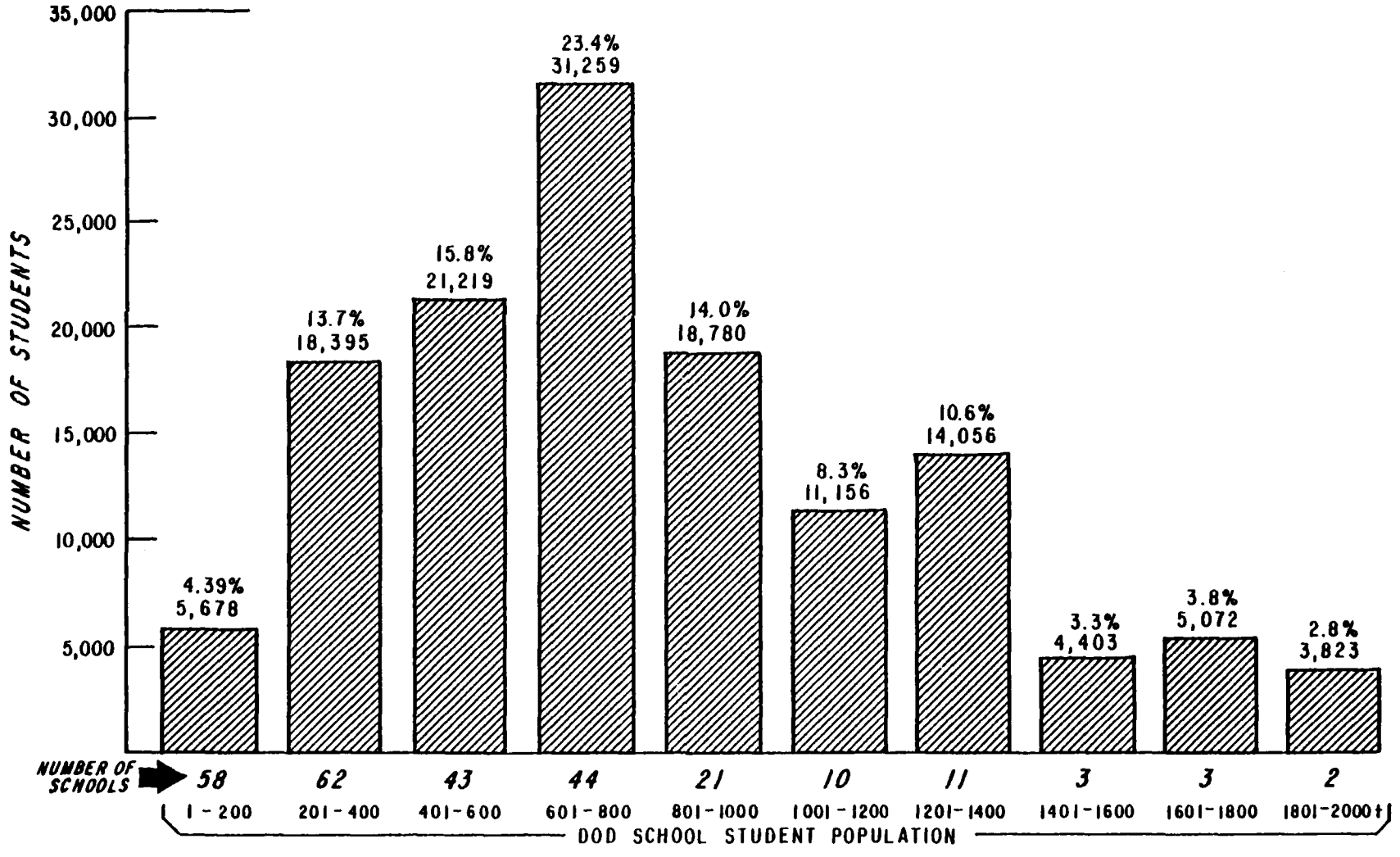


FIGURE IV-3

DISTRIBUTION OF STUDENTS



Determination of Priority

A majority of DoD schools currently have no meal program and no facilities or equipment for providing one. We suggest that the schools be arranged in precedence according to several criteria and that as program resources become available they be applied to the highest priority schools first. The following criteria should be among those employed in the prioritization process:

- Existing programs or facilities
- School student population
- Locally perceived need
- Rider vs. walker ratio
- Local availability and cost of meal alternatives
- Morale factors

Table IV-4 displays a priority ranking scheme for each of these criteria.

We suggest that the 28 percent of the schools with existing programs be initially left "as is" with the exception of such changes as would be required to bring the programs into compliance with DoD and USDA requirements. We estimate that the costs associated with new equipment and program compliance modification for one of these schools would be an incremental amount equal to about 10 percent of the cost of equiping a full kitchen operation from scratch.

The approximately 14 percent of the schools with existing facilities and equipment but no current program should receive highest priority. By giving these schools a high initial priority, a student meal program can be brought quickly to an additional 22,000 students with a minimal start-up investment in additional facilities and equipment. It should be noted, however, that a majority of these unused facilities exist in high labor cost areas. This means that implementation of an on-site food preparation activity at these locations may be less cost-effective over the long haul than a lower labor-intensive system (e.g., preplate or box/soup and sandwich meals).

The nature of the contractual agreement reached by DoDDS and the local manager-operator and the flexibility in hiring practices will be a major determinant in the degree of difference between the cost of the two approaches. If the contractor can employ U.S. dependent labor in the on-site preparation operation, then the delivered meal cost for the alternative systems could be expected to be comparable to that for preplates or box meals.

The remaining 58 percent of schools with no existing programs should be divided into two categories: (1) those that can provide space in or near the school to support, at minimum, a low-space consuming student meal program (e.g., preplate, satellite or box meal/soup and sandwiches), and (2) those that can provide no space at all in or near the school for student meals. The first group should receive a higher priority than the second. The philosophy of this priority ranking is to extend the availability of a student meal service as early as possible to as many students as possible with such resources as may be available early in the program.

Student Population. The priority assignment by student population provides for a higher resource allocation priority to larger schools than to smaller schools. This permits the program to achieve economies of scale. A single large operation can reach more students per dollar investment than could be reached if that same investment were spread among several small operations.

Rider vs. Walker. Schools with high populations of bussed students should receive a higher resource allocation priority than schools with low rider (bussed students) populations. Bussed students generally have no option other than to eat in school or purchase a commercial lunch if one is available near the school. These students have a more compelling need for a student meal program at school than do those students who can walk home for lunch.

Availability and Cost of Local Meal Alternatives. The availability and cost of local meal alternatives should be considered when assessing need and priority. Schools that have no local student meal alternatives (e.g., snack bars, clubs, cafeterias, etc.) should receive first priority. Second priority should go to locations with limited availability, high cost alternatives. Third priority would go to locations with either limited availability, low cost alternatives or readily available, high cost alternatives. Lowest priority for this category would go to locations with readily available, low cost alternatives.

Morale Factors. Local morale factors should also be considered in determining need and priority. Those locations with poor community morale, hardship duty, and/or inadequate social facilities should receive a higher priority than locations with better conditions. Second priority would go to communities with fair community morale and/or a moderate degree of satisfaction with social facilities and conditions. Third priority would be assigned to locations with good community morale and/or adequate social facilities and conditions. Lowest priority would go to areas with excellent community morale and abundant or excellent social facilities and conditions.

Locally Perceived Need. Finally, locally perceived need should be considered when determining implementation priority. Highest priority should go to those communities where 75 percent or more of the community (parents, teachers, students) feel a student meal program is needed. Second priority would go to locations where between 50 and 75 percent of the community feel a program is needed. Third priority would go to locations where between 25 and 50 percent of the community feel a program is needed. Finally, lowest priority would go to locations where less than 25 percent of the community

feels a program was needed. These breakdowns could be determined by conducting polls during the needs assessments that will be necessary at each location.

Table IV-4 is a matrix which shows the priority categories. Each location could be evaluated by assessing the local base/school/community characteristics in terms of the matrix categories and assigning priority values to each. For the example values shown, a school with a highest priority rating in every category would have a priority score of 60 points. On the other hand, a school with all lowest priority ratings would score 15 points. All other schools would fall between these two scores. Other priority categories and weighting schemes could be added to the matrix if desired.

Local Program Costs and Revenues

Program Costs. Tables IV-5 through IV-9 show the derivation of the local program costs, based on data from Chapter III. Cost entries reflect the use of preplates. Selection of the box meal/soup and sandwich option would redistribute the cost elements, but would not substantially alter the bottom line.

TABLE IV-4. IMPLEMENTATION PRIORITIES

FACTOR PRIORITY RANK	EXISTING PROGRAMS AND FACILITIES	RIDER vs WALKER	SCHOOL POPULATION	AVAILABILITY/COST OF MEAL ALTERNATIVES	MORALE FACTORS	LOCALLY PERCEIVED NEED
Highest Priority 10.0	Schools with no current program but with existing equipment or facilities	Schools with greater than 75% riders	Schools with greater than 800 students	No local student meal alternatives	Poor community morale, hardship areas, inadequate social facilities and/or amenities	Local community strongly feels a student meal program is needed 75% + community support
2nd Priority 7.5	Schools with no current program and minimum space to accomodate the minimum program	Schools with greater than 50% but less 75% riders	Schools with 400 to 800 students	Limited availability high cost local student meal alternatives	Fair community morale-some dissatisfaction with local social facilities and amenities	Majority of community feels a student meal program is needed-50 to 75% community support
3rd Priority 5.0	Schools with no current program and insufficient space for any program	Schools with 5% to 50% riders	Schools with 50 to 400 students	Limited availability low cost or readily available, high cost local student meal alternatives	Good community morale-adequate social facilities activities and amenities	Less than majority of community feel a student meal program is needed 25 to 50% community support
Lowest Priority 2.5	Schools with existing satisfactory student feeding programs	Schools with less than 5% riders	Schools with less than 50 students	Readily available low cost local student meal alternatives	Exceptional community morale highly desirable area. Abundant social facilities activities and amenities available	Local community feels a student meal program is not needed Less than 25% community support

TABLE IV-5. EQUIPMENT COST

SCHOOL CATEGORY	NUMBER OF SCHOOLS	COST PER SCHOOL	IMPLEMENTATION EQUIPMENT COST
Adequate Current Program	71	$5,880[a]	$417,500
Adequate Full Kitchen (Space only)	36	58,800	2,116,800
Preplate (Less than 600 students)	100	15,700	1,570,000
Preplate (More than 600 students)	50	23,500	1,175,000
TOTAL	257		$5,279,300

[a]Equipment cost to bring these schools into the program estimated to be approximately 10% of equipping a full kitchen from scratch.

TABLE IV-6. FACILITIES (KITCHEN SPACE) COST[a]

SCHOOL CATEGORY	NUMBER OF SCHOOLS	FACILITIES (KITCHEN SPACE) COST/SCHOOL[b]	IMPLEMENTATION KITCHEN SPACE COST
Adequate Current Program	71	0[c]	0[c]
Adequate Full Kitchen (Space only)	36	$67,200	$2,419,200
Preplate (Less than 600 students)	100	30,400	3,040,000
Preplate (More than 600 students)	50	40,400	2,020,000
TOTAL	257		$7,479,200

[a]Cost of student dining space not calculated. Assumes students will eat in current facilities initially (e.g., classroom, multipurpose room, etc.).

[b]Cost of space calculated at $80.00 per sq. ft.

[c]Costs for space currently in use for student feeding not calculated.

TABLE IV-7. ANNUAL DIRECT LABOR COST

SCHOOL CATEGORY	NUMBER OF SCHOOLS	DIRECT LABOR HOURS PER DAY	OPERATING DAYS (ANNUAL)	COST PER[a] LABOR HOUR	ANNUAL DIRECT LABOR COST
Adequate Current Program	71	26	180	$4.55	$1,511,874
Adequate Full Kitchen (Space only)	36	26	180	4.55	766,584
Preplate (Less than 600 students)	100	8	180	4.55	655,200
Preplate (More than 600 students)	50	12	180	4.55	491,400
TOTAL	257				$3,425,058

[a]Cost will vary significantly from area to area depending on whether local national labor or dependent labor is employed and on local requirements for benefits. Cost shown is estimated for a predominent use of dependent labor. The $4.55 rate is comprised of an average rate of $3.50 per hour plus 30% fringe benefits.

TABLE IV-8. ANNUAL FOOD COST

SCHOOL CATEGORY	NUMBER OF SCHOOLS	NUMBER OF MEALS SERVED DAILY[a]	OPERATING DAYS (ANNUAL)	FOOD COST PER MEAL	ANNUAL FOOD COST
Adequate Current Program	71	46,000	180	$.443	$3,668,040
Adequate Full Kitchen (Space only)	36				
Preplate (Less than 600 students)	100	48,000	180	.784	6,773,760
Preplate (More than 600 students)	50				
TOTAL	257	94,000			$10,441,800

[a]Assumes a 70% student participation rate in program (achievable if program is well designed and managed).

TABLE IV-9. MISCELLANEOUS OPERATING COST[a]

SCHOOL CATEGORY	NUMBER OF SCHOOLS	NUMBER OF MEALS SERVED DAILY	OPERATING DAYS (ANNUAL)	MISC. COST PER MEAL	ANNUAL MISC. OPERATING COST
Adequate Current Program	71	46,000	180	.079	$654,120
Adequate Full Kitchen (Space only)	36				
Preplate (Less than 600 students)	100	48,000	180	.058	501,120
Preplate (More than 600 students)	50				
TOTAL	257	94,000			$1,155,240

[a]Miscellaneous operating cost defined in Chapter III

- Management and administration
- Utilities
- Maintenance
- Transportation
- Support services (laundry, sanitation, etc.)

The cost of equipment and facilities represents a one-time investment of approximately $13 million for the student feeding program not including any new construction for student dining space. Annual on-site operating costs for the system are estimated to be approximately $15 million.

INITIAL INVESTMENT COST	
Equipment	$5,279,300
Facilities (Kitchen space)	$7,479,200
	$12,758,500

ANNUAL OPERATING COST[a]	
Direct Labor	$3,425,058
Food	$10,441,800
Miscellaneous	$1,155,240
	$15,022,098

[a]Annual operating costs do not account for contractor/operator profit since requirements may range from simple break even upwards depending on the contractor selected.

Program Revenues. Program revenues are expected to flow from two sources: student charges and USDA subsidies. Since the methodology for determining eligibility for reduced price and free lunches is still in question, we have calculated revenues in two ways. The first scenario (Table IV-10) assumes that no students will be eligible for reduced price lunches. The second scenario assumes that all students with sponsors of paygrade E5 and below (21 percent of the students) will be eligible for reduced price lunches. Both scenarios assume that a negligible number of students would qualify for free meals.

TABLE IV-10. SCENARIO #1

STUDENT CHARGE REVENUE				
	Meals Served Daily	Student Charge For Meal	Operating Days (Annual)	Annual Student Revenue
Grades K-6	80,000	.60	180	$8,640,000
Grades 7-12	14,000	.70	180	1,764,000
TOTAL	94,000			$10,404,000
USDA CASH SUBSIDY REVENUE				
	Meals Served Daily	Cash[1] Subsidy per meal	Operating Days (Annual)	Annual USDA cash Subsidy
	94,000	.15	180	$2,538,000
TOTAL				$2,538,000
USDA COMMODITY SUBSIDY REVENUE				
	Meals Served Daily	Commodity[2] Subsidy per meal	Operating Days (Annual)	Annual USDA Commodity Subsidy
	94,000	.14	180	$2,368,800
TOTAL				$2,368,800
GRAND TOTAL				$15,310,800

[1]Postulated as to 15¢ (subsidy rate subject to periodic change).

[2]Postulated as 14¢ (subsidy rate subject to periodic change).

TABLE IV-11. SCENARIO #2

STUDENT CHARGE REVENUE				
	Meals Served Daily	Student Charge per Meal	Operating Days (Annual)	Annual Student Revenue
Grades K-6	28,000[1]	.20	180	$1,008,000
Grades K-6	52,000	.60	180	5,616,000
Grades 7-12	14,000	.70	180	1,764,000
TOTAL	94,000	-	-	$8,388,000
USDA CASH SUBSIDY REVENUE				
	Meals Served Daily	Cash Subsidy Per meal	Operating Days (Annual)	Annual USDA Cash Subsidy
	28,000	.66[2]	180	$3,326,400
	66,000	.15	180	1,782,000
TOTAL	94,000	-	-	$5,108,400
USDA COMMODITY SUBSIDY REVENUE				
	Meals Served Daily	Commodity subsidy per meal	Operating Days (Annual)	Annual USDA commodity Subsidy
	94,000	.14	180	$2,368,800
TOTAL	94,000	-	-	$2,368,800
GRAND TOTAL				$15,865,200

[1]Assumes all students are eligible for reduced price meal are in grades K-6.

[2]Postulated at $0.66 (subsidy rate subject to periodic change).

Comparing the revenue of scenarios #1 and #2, we observe that program revenue is little affected by the number of students eligible for reduced price meals. In both scenarios, program revenues approximately offset annual operating costs. The initial investment in equipment and facilities would be expected to come from funds appropriated for that purpose.

Other Local Management Considerations

Any analysis of a student meal program should take into account the business/marketing aspects of the operation. As in any marketing situation, there is a consumer (e.g., student/parent) who must pay (in most cases) for the product or service received. There is competition in the marketplace (e.g., snackbars, clubs, lunches from home, etc.) and considerable elasticity in consumption according to the price and quality of the product. The degree of program success depends on the factors existing in that marketplace and the extent to which the program is competitive with other market alternatives. Two critical factors are meal pricing and manager/operator profit and loss.

Meal Pricing. Price will be one of the most influential factors in determining the success or failure of the student meal program. A constant question heard throughout the on-site visits was, "What will it cost?"

Empirical evidence from school lunch programs both in domestic and DoDDS systems indicates a significant change in participation with relatively small changes in meal pricing. Most individuals surveyed responded that a lunch priced between 50¢ and 65¢ would be competitive with other alternatives (including brown bag) and would encourage participation and support and that if prices rose much above 65¢ to 70¢, participation would drop off very rapidly. Indeed, the historical experience within school lunch programs supports this premise of high elasticity.

A second consideration in pricing is whether local costs and conditions should be used to determine local meal costs or whether a standard meal price should be established throughout the DoDDS system. Most DoDDS faculty, Service command personnel, and parents believed that there should be a standard price across the DoDDS system. A price differential, it was felt, would generate many complaints and morale problems for both DoDDS and the military services.

The establishment of a standard price would, however, create other problems. Since actual costs will vary significantly from region to region, it would appear that inequities would simply be manifest in ways other than price. One way to minimize these inequities would be to minimize the cost factors that manifest the greatest variability from region to region. Without question, the most significant of these cost factors is labor. A meal delivery system requiring less labor content would, in addition to helping minimize overall costs, result in greater equalization of costs among regions. Some other mechanisms which might be considered would include a mechanism by which profits from low cost operations would be used to offset losses in high cost operations, and a mechanism of variable subsidies based on region/operation cost differences.

It may be argued that a price differential between high cost and low cost areas is justified and appropriate, since sponsors in the higher cost areas receive various allowances designed to compensate for those differences. We urge that DoDDS develop a pricing strategy for the meal program rather than allowing each local manager/operator to establish his own. A good approach would be to establish a maximum price ceiling of around 70¢ and permit local

operations to charge less if local conditions and preferences permit. Additionally, a periodic pricing review mechanism should be established within DoDDS to adjust the price ceiling according to inflation.

Manager-Operator Profit Loss. An accepted principle in the business world is that an individual or company should be compensated in accordance with the risk assumed. This principle should also apply to the local manager-operator of the student meal program.

We have recommended the use of an independent contractor for the management and operation of local student feeding programs. However, few commercial contractors would be willing to take on this responsibility on a totally nonprofit basis. Only a "captive" organization like a military exchange system would be willing to do that, and then with some reluctance. No organization would be willing to take on such a responsibility with no opportunity for profit if it was also exposed to potential losses.

The problem then is one of how to obtain a good, responsible local manager-operator and yet keep the management/operation costs to a minimum. Our suggestions for achieving this objective are as follows:

- Develop a mechanism by which the manager-operator is protected from financial loss when operating within DoDDS established guidelines.
- Establish DoDDS financial policies and guidelines to govern the operating and financial accounting of student meal programs.[5]
- Establish a manager-operator compensation scheme directly tied to the student meal program productivity measures. This will encourage the manager-operator to maintain a low price and high food quality to maximize participation while at the same time seeking greater efficiency in the operation.

[5]Guidance for the establishment of DoDDS food service accounting procedures may be found in School Food Service Financial Management Handbook for Uniform Accounting, U.S. Department of Agriculture, Food and Nutrition Service, July 1973 (Publications FNS 104 and FNS 105).

The manager-operator incentive should not be provided as a percent of total cost, as this would encourage increasing costs. Neither should the incentive be a fixed fee, as this provides no incentive to achieve either greater efficiencies or greater participation.

LOGISTICAL SUPPORT

The implementation of the logistical support apparatus for the DoDDS student meal program may be the simplest task in the implementation of the overall program. Both the DLA/DPSC/commissary and the exchange networks are currently functioning in their roles of subsistence support. Since our recommendations entail primarily a user "plug-in" to an existing system, implementation will occur in most cases at the local level through:

- request and authorization for school food service use of the DLA/DPSC/commissary systems, and/or
- maintenance or institution of an agreement between DoDDS and the military exchange.

At the policy level, we recommend that DoDDS begin early coordination with the DLA and its supporting activity, DPSC, the military organizations responsible for the commissaries, the military exchanges, and the USDA. The coordination will include projections of DoDDS meal service requirements and timetables which will allow the appropriate agencies to commence their own planning.

The major impact on the logistics system will occur in the areas of inventory control, distribution and storage of items in the frozen preplated program and the integration of the donated USDA commodities, if commodities are a required part of the DoDDS participation in the National School Lunch Program.

The USDA is reluctant to consider providing subsidies to the DoD school meal program in the form of cash only. If an irrevocable decision has not

been made, we urge that DoD officials examine more closely the arguments for cash-only vs. cash and commodity subsidization. The previous distribution of less than one percent of USDA commodities within existing DoD school lunch programs has been cited earlier in the report. Implementation of the recommended program would tend to increase the DoDDS proportion of available commodities to a higher, but still minor, fraction. Ability to provide cash subsidies in lieu of commodities would significantly simplify the worldwide logistics problem and might prove to be less expensive to the government overall.

IMPLEMENTATION TASK OUTLINE

This report has presented several recommendations for system selection, management, operation and logistics support of a student meal program for the DoDDS system. Much work remains to be done before such a program can be fully implemented and operating. The following brief section presents a number of activities that remain to be accomplished.

Executive Level

- Assign to DoDDS the direct responsibility and commensurate authority for management of the school food service program.
- Assign responsibilities for support of the school food service program to appropriate agencies and organizations within DoD, including:
  - the military services
  - DLA
  - DPSC
  - the commissary systems
  - the military exchange systems

Organization/Administration

- Develop the specific functions and position descriptions required within DoDDS to administer a school food service program.
  - obtain necessary authorizations and appropriations
  - recruit and staff
  - budget

- Define roles, responsibilities and interrelationships of DoDDS, USDA, military services, DLA, contractors, etc.

  - obtain appropriate agreements
  - define contractual requirements
  - define technical assistance requirements

- Define program administrative requirements, policies, practices, procedures and standards

  - develop program documentation
  - establish financial and performance monitoring mechanisms
  - develop program standards
  - establish program accounting methods
  - develop methods of subsidy disbursement
  - determine free and reduced price eligibility guidelines
  - develop policies & procedures
  - develop nutrition education objectives and requirements

System Configuration/Local Operation

- Define specific requirements and constraints of each school in the DoDDS system

  - determine optimum configuration for each school
  - develop program implementation costs for each school
  - develop system plan for each school

- Obtain potential local operator-managers for program

  - identify potential operator-managers
  - prepare required RFPs
  - evaluate and select contractor
  - define local standards, policies, procedures and contracts

- Select optimum system/equipment/food suppliers for program

  - identify and evaluate potential suppliers (trial programs, tests, track records, etc.)
  - perform lease-purchase evaluations
  - select equipment and food suppliers

- Develop school system meal delivery capability

  - define implementation priority ranking scheme
  - develop phased implementation plan
  - secure and allocate funding
  - purchase, construct, install facilities and equipment

Logistics

- Develop/engage the logistics support capability for the program

- determine meal program impacts on logistics system
- define logistics policies, procedures, etc. for acquisition, transportation, storage and delivery of food service program items
- obtain new capability/capacity as required (e.g., lease, construct, modify)

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APPENDIX

TASK ORDER

ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, D. C. 20301

MANPOWER,
RESERVE AFFAIRS
AND LOGISTICS

Task Order to be Performed
by Logistics Management Institute
for the
Office of the Assistant Secretary of Defense (MRA&L)

As provided for in Department of Defense Contract MDA903-77-C-0370 Logistics Management Institute is requested to support the following task being carried on by the Office of the Secretary of Defense.

1. TASK ORDER NO.: ML812 (MDA0370-25)

2. TITLE: Operation and Management of Student Feeding Programs in Department of Defense Overseas Dependents Schools

3. CONTENT AREA: Management

4. OBJECTIVE: To evaluate alternative schemes for operating and administering student feeding programs in DoD overseas dependents schools for the purpose of determining those organizations, management practices, and food distribution channels best suited to providing reliable and quality service at a reasonable cost.

5. BACKGROUND: In July 1976, Congress shifted complete responsibility for the operation of DoD dependents schools from the Military Departments to the Office of the Department of Defense Dependents Schools (DoDDS). While responsibility for all educational programs now come under the administrative authority of DoDDS, no uniform provisions for student feeding are in effect. Traditionally, the existence and method of accomplishment of a student lunch (or breakfast or both) program has been the prerogative of the local military installation or community commander. Hence, a variety of student feeding programs exist, including appropriated fund dining facilities, nonappropriated fund activities (such as officers or service clubs), cafeterias or snack bars by nonappropriated fund (exchange) activities, private contractor cafeterias, and a la carte purchases from vending machines or lunch wagons. Recent problems at some locations, including high meal prices and unsatisfactory cafeteria space and/or kitchen equipment, has led Congress to introduce legislation which will, if enacted, subsidize overseas feeding programs under the National School Lunch and Child Nutrition Acts. Any system-wide improvement in Student Feeding Programs in the DoD Overseas Dependent Schools, either under provisions of the newly introduced legislation or under existing regulation or practice, will require more standardization in operation, management and accounting procedures. However, little substantive analysis has been performed to determine which organizations for and methods of administering the programs are most cost-effective.

6. SCOPE:

a. LMI will conduct an overview of school feeding programs as administered in select school systems in the United States, including schools operated on military installations, and in DoD overseas schools, including a thorough examination of a select sample of schools with differing food availabilities, requirements and management practices.

b. Based on that overview, LMI will identify alternative management schemes for the DoD overseas student feeding program and evaluate them with respect to cost and effectiveness. Candidate issues for consideration are channels of food distribution, cash versus commodity subsidies, reliability of service, plate waste, capacity and condition of cafeteria facilities, kitchen equipment requirements, administration of free and reduced rate meals, personnel requirements, budgeting and accounting systems, statutory requirements and limitations, nutrition and sanitation control, DoDDS/Military Department/USDA interfaces, and the impact of the proposed U.S. Department of Education.

c. From the evaluation, LMI will recommend the organizations, management practices, and channels of food distribution which can best provide reliable and quality service for a reasonable cost. A plan for implementing the recommendations will be prepared.

7. SCHEDULE: 15 August 1978 - 31 March 1979.

8. PRODUCTS: Two interim progress reports will be submitted at milestones to be determined. A draft final report will be submitted by 28 February 1979.

9. LEVEL OF EFFORT: 2,692 Research staff person hours.

10. TASK MONITOR: Mr. William Delaney, OASD(MRA&L) (PM/DoDDS), Hoffman Building #1, Room 132, 325-0110.

ACCEPTED:

Hugh McCullough
President, LMI

Robert B. Pirie, Jr.
Principal Deputy Assistant Secretary

Sept 12, 1978
Date

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REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER: ML812
2. GOVT ACCESSION NO.: AD-A084629
3. RECIPIENT'S CATALOG NUMBER:
4. TITLE (and Subtitle): OPERATION AND MANAGEMENT OF STUDENT MEAL SERVICE PROGRAMS IN THE DEPARTMENT OF DEFENSE DEPENDENTS SCHOOLS.
5. TYPE OF REPORT & PERIOD COVERED: Final rept.
6. PERFORMING ORG. REPORT NUMBER: ML812
7. AUTHOR(s): Brian E. Mansir, Michael K. Masterson, Connelly D. Stevenson
8. CONTRACT OR GRANT NUMBER(s): MDA 903-77-C-0370
9. PERFORMING ORGANIZATION NAME AND ADDRESS: Logistics Management Institute, 4701 Sangamore Road, Washington, D.C. 20016
10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS:
11. CONTROLLING OFFICE NAME AND ADDRESS: Office of Assistant Secretary of Defense (Manpower, Reserve Affairs and Logistics)
12. REPORT DATE: March 1979
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School Meal Program
School Breakfast Program
School Lunch Program
DoDDS
Subsistence logistics
Cafeteria
USDA subsidy
Frozen preplate meal

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The Department of Defense Dependents School (DoDDS) system provides elementary and secondary education to approximately 134,000 students, predominantly dependent children of U.S. military personnel stationed abroad, in 261 schools in 22 foreign countries. Although some schools, about 28% of the total, have meal programs which fulfill or nearly fulfill the USDA standards, most schools have neither meal programs nor the equipment,

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BLOCK 20. ABSTRACT (Cont'd)

facilities or organizations to carry out meal programs. The school system does not participate in programs established by the National School Lunch Act and the Child Nutrition Act of 1966.

LMI was tasked to study the school meal situation as it might apply to DoDDS and to make recommendations for a system-wide quality meal program at a reasonable cost. During the period of the study the Defense Dependents Education Act of 1978 was made law, extending the benefits of the two earlier laws to students of DoDDS.

The report makes recommendations in the areas of system-wide and local-level management responsibility, responsibility for foodstuff logistics on a global and local scale, and for the types of meal preparation and delivery services best suited to schools on the basis of cost, effectiveness and feasibility factors. Program costs are estimated, and a staffing and an implementation task outline are presented.